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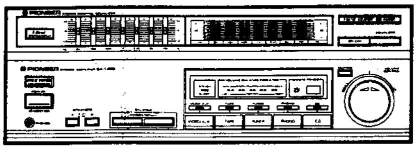
1807

Service Manual



ORDER NO.
ARP1370

STEREO AMPLIFIER

SA-1480

SA-1280

MODEL SA-1480 AND SA-1280 COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Applicable model		Power requirement	Destination
	SA-1480	SA-1280		
KUC	○	○	AC120V only	U.S.A. and Canada
SD	○	○	AC110V, 120V–127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and general market
SD/G	○	○	AC110V, 120V–127V, 220V, 240V (switchable)	U.S. Military

- **This service manual is applicable to the SA-1480/KUC type and SA-1280/KUC type.**
- **As to the SA-1280/KUC type, please refer to pages 36 – 60.**
- **As to the other types, please refer to the additional service manual.**

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1807

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1. PANEL FACILITIES

1.1 FRONT PANEL

❶ POWER (STANDBY/ON) switch

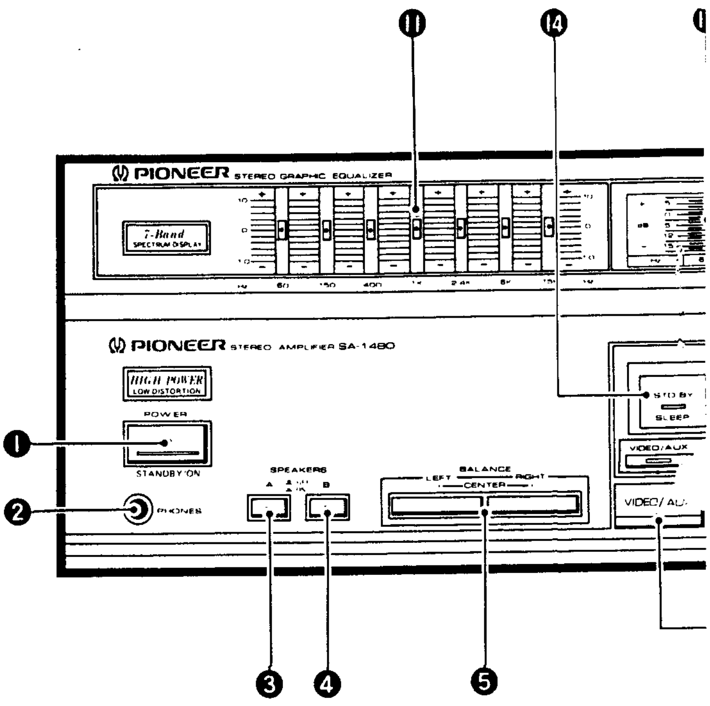
- The accessory remote control unit can also be used to operate this switch's STANDBY/ON function.
- The POWER switch selects the transformer's secondary even in STANDBY position. The unit's circuitry will work as long as the power cord is connected to a power outlet.
- When not using the unit for a long period, disconnected the power cord.

❷ PHONES jack

When using headphones, insert their plug into this jack.

❸ SPEAKERS A selector switch

Use this switch to listen to the speaker systems connected to the SPEAKERS A terminals.
[ON] – Depressed position: Sound is heard from the speaker systems.
[OFF] – Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.



❹ SPEAKERS B selector switch

Use this switch to listen to the speaker systems connected to the SPEAKERS B terminals.
[ON] – Depressed position: Sound is heard from the speaker systems.
[OFF] – Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.

NOTE:
When the speaker system is connected to only one speaker terminal (A or B) and both A and B selector switches are ON, there will be no sound.
Turn ON only the selector to which the speaker system is connected.

❺ BALANCE control

Normally, the BALANCE indicator of the mode display is set to the center position. By pressing the [L] and [R] controls simultaneously, the balance will be set to the center position. If the sound is unbalanced to one side, adjust in the following way: If the sound is too loud on the right side, press [L], if too loud on the left side, press [R].

❻ FUNCTION switches

Use to select playback source.
[VIDEO/AUX] – Press when listening to programs from a component connected to the VIDEO/AUX terminals.
[TAPE] – Press when listening to tape playback with a cassette tape deck.
[TUNER] – Press when listening to AM or FM broadcasts with a tuner.
[PHONO] – Press when listening to record playback on a turntable.
[CD] – Press when listening to compact disc playback with a CD player.

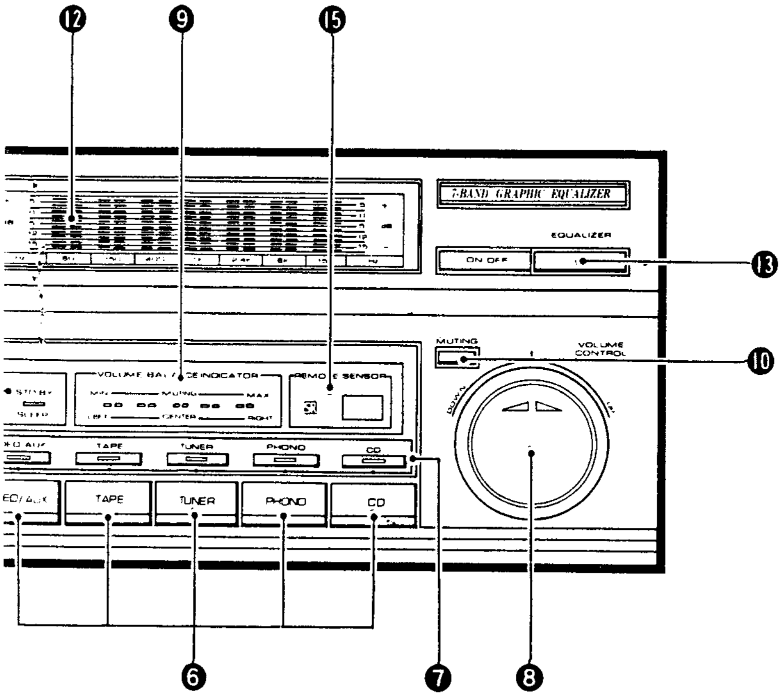
❼ FUNCTION indicators

These indicators light to show the setting of the FUNCTION switches.

❽ VOLUME control

Use to adjust sound volume.
[UP] – (Turn to the right):
Sound volume is increased.
[DOWN] – (Turn to the left):
Sound volume is decreased.
Adjustment can also be performed with the accessory remote control unit.

NOTE:
Since the VOLUME control is operated with an electronic system and turns to the right or left by only 30°, do not turn it any more than this. Release to return it to the center position.



⑨ VOLUME/BALANCE indicator

- Normally, this indicator functions to display the sound volume level.
- When the balance control is pressed, the indicator switches to display the right-left sound balance. After several seconds, the indicator returns automatically to the volume display.
- When the MUTING switch is ON, the indicator flashes.

⑩ MUTING switch

Use to temporarily cut out all audio signals.
When the mode display shows the flashing VOLUME/BALANCE indicator, the function is ON, and all sounds are cut off.
When turned OFF, the sound returns to its previous level.
The muting ON/OFF function can also be operated by the accessory remote control unit.

⑪ GRAPHIC EQUALIZER controls/indicators

These controls can be used to emphasize or de-emphasize sounds in the frequency bands 60Hz, 150Hz, 400Hz, 1kHz, 2.4kHz, 6 kHz, 15kHz, thus allowing you to control tone quality. The center position of each control is the normal (flat) setting; when raised above the center position, the control's frequency band is emphasized; when lowered, the band is de-emphasized.

⑫ SPECTRUM ANALYZER

This display shows the condition of sound signals compensated with the graphic equalizer controls.
(Because the level indicator is connected to the input side, the indication does not change when the VOLUME control is turned.)

⑬ EQUALIZER ON/OFF selector switch/indicators

When this switch is pressed, the equalizer indicators light and its functions become operative. When pressed once again, the indicators go out and its functions are turned OFF. Use this switch in the following manner:

[ON] : When using the equalizer to add sound compensation while performing program sources, and playing back and/or recording results.
[OFF] : When not using the equalizer, but playing back or recording program sources without compensation.

⑭ SLEEP/STD-BY indicator

This indicator lights or flashes when the accessory remote control unit is used to turn the SLEEP key or POWER key.
When the SLEEP key is ON, the indicator will light. (Initially it will flash slowly, then gradually become faster.)
60 minutes after the sleep timer is turned ON, the power switch will be turned STANDBY automatically.

⑮ REMOTE SENSOR window

This component features a built-in microcomputer which will recall the last-set positions of the following switches for up to about one week after the power cord is disconnected. As a result, when the power is turned ON again, the previously set positions will be recalled automatically:

- FUNCTION switch
- MUTING switch
- EQUALIZER ON/OFF switch
- BALANCE control
- VOLUME control

When the unit is not used for more than a week, the memorized setting positions will be erased, and returned to the the following settings:

- VOLUME control .... minimum
- MUTING switch ....OFF
- BALANCE control ....CENTER
- FUNCTION switches .... TUNER
- EQUALIZER ON/OFF switch .... OFF

1.2 REMOTE CONTROL UNIT

In addition to the present unit, the remote control unit can also be used to operate other Pioneer components (TV, VCR, LVP, Tape deck or CD) bearing the SR mark.

When the A/V selector is "A"

AUDIO VIDEO
A
V

❶ POWER key

❷ MUTING key

❸ VOLUME (– : down, + : up) key

❹ SLEEP key

The sleep timer can be operated for up to 60 minutes. The STANDBY/SLEEP indicator flashes while the sleep timer is operating. The flashing speed gradually increases as the set time elapses.

❺ FUNCTION selector keys

❻ CHANNEL (– : down, + : up) key

The channel which is memorized in the STATION CALL switch will be received.

+ : The STATION CALL switches will light sequentially in ascending order of channel numbers.

– : The STATION CALL switches will light sequentially in descending order of channel numbers.

❼ CD keys

▷ (Play) : Begins playback. (So that the function of the amplifier section turns to CD).

❚❚ (Pause): Press to temporarily pause playback.

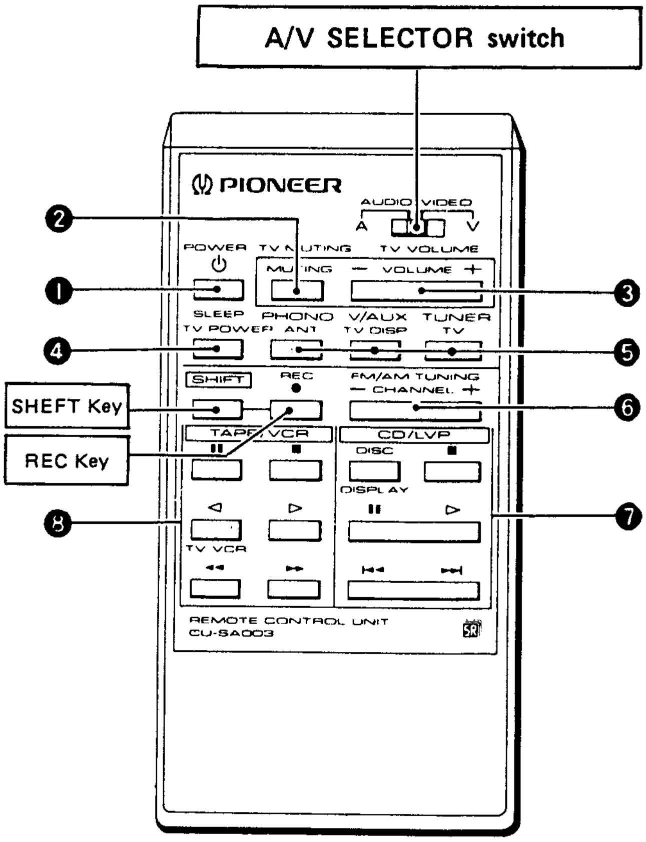
■ (Stop) : Press to stop playback.

DISC : Used to select one of the disc numbers (1–6) for playback. Use this key when having combined a Pioneer CD player with a magazine system.

NOTE:
Note that DISC selector key on the accessory remote control unit may not function, depending on the CD player used.

▶▶| (Track search) :
When pressed once, play advances to the beginning of the next track; when pressed continuously, advances to further tracks.

|◀◀ (Track search) :
When pressed once, returns to the beginning of the currently playing track; when pressed continuously, returns to earlier tracks.


A/V SELECTOR switch
PIONEER
AUDIO VIDEO
A
V
❷
POWER
TV MUTING
TV VOLUME
MUTING
– VOLUME +
❶
❸
SLEEP
PHONO
V/AUX
TUNER
TV POWER
ANT
TV DISP
TV
❹
❺
SHIFT
REC
FM/AM TUNING
– CHANNEL +
SHEFT Key
❻
TAPE/VCR
CD/LVP
REC Key
DISC
DISPLAY
❽
❼
TV VCR
REMOTE CONTROL UNIT
CU-SA003

❽ TAPE keys

The CT-980W CASSETTE DECK cannot be operated with this unit.

▷ (Play) : Press for foward direction playback.

◁ (Play) : Press for reverese direction playback.

(So that the function of the amplifier section turns to TAPE).

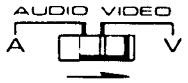
❚❚ (Pause): Press to temporarily pause recording or playback.

▶▶ : Winds the tape quickly from left to right.

◀◀ : Winds the tape quickly from right to left.

■ (Stop) : Stop tape travel.

When the A/V selector is "V"



❶POWER key

❷MUTING key

❸ VOLUME (– : down, + : up) key

❹ TV power key

Use to turn power ON/OFF to TV.

❺ ANT select key:

This is for switching the TV antenna.

TV DISP key:

TV display key shows/erases DISPLAY of the television screen.

TV key:

Sets the TV set function to TV and the amplifier section function is set to VIDEO/AUX.

❻ TV CHANNEL selector key (– CHANNEL +)

This key is pressed to select the TV channel memorized.

❼ LVP (LaserVision player) keys

▷ (Play) : Begins playback. (The amplifier section function is set to VIDEO/AUX and the TV function is set to VDP).
II (Pause): When pressed, picture and sound vanish and playback is temporarily interrupted. Press again to release the pause mode.
■ (Stop) : Stops playback.
DISPLAY : Shows/erases a chapter number and a frame (or time) number on the television screen.
▶▶I (Scan) : Scanning in forward direction.
I◀◀ (Scan) : Scanning in reverse direction.

NOTE:
- *In the case of the LVP, the (◀◀ and ▶▶) symbols mean manual last feed. You cannot perform a chapter search.*

❽ VCR keys

▷ (Play) : Begins playback. (The amplifier section function is set to VIDEO/AUX and the TV function is set to VCR).
II (Pause): Temporarily interrupts playback or recording.
■ (Stop) : Stops tape travel.
▶▶ (FF) : Advances the tape quickly.
◀◀ (REW) : Rewinds the tape quickly.
◁ (TV/VCR) : Switches the antenna from VCR to TV.

Functions used in combination with the SHIFT key

Be sure to press the SHIFT key first and keep it pressed while operating other keys.

SHIFT + MUTING : TV muting.
SHIFT + –VOLUME : TV volume down.
SHIFT + VOLUME + : TV volume up.
SHIFT + SLEEP : VCR power

SHIFT + –CHANNEL : TUNER tuning down.
SHIFT + CHANNEL+ : TUNER tuning up.
SHIFT + REC ● : When the A/V selector is "A", begin the cassette tape deck recording. When the A/V selector is "V", begin the VCR recording

Refer to each instructions manual about the TV–, VCR–, LVP–, Tape Deck– or CD-control.

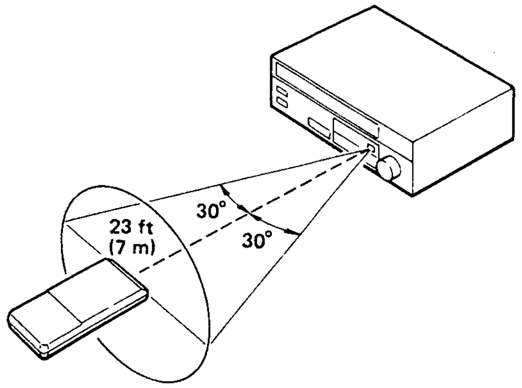
Range of Remote Control

When the remote control unit is pointed at the remote control sensor window on the stereo amplifier and any of its keys is pressed, the unit and other components can be operated by remote control.

Distance: Within a range of about 23 feet (7 meters) from the unit's remote control sensor window.

Angle: Within approx. 30 degrees from the center of the unit's remote control sensor window.

Remote control will not be possible if there is an obstacle between the remote control unit itself and the unit's remote control sensor window.



2. SPECIFICATIONS

Amplifier Section

Continuous average power output is 130 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

Input (Sensitivity/Impedance)	
PHONO	2.5 mV/50 kΩ
CD, VIDEO, TAPE PLAY, ADAPTOR IN	150 mV/50 kΩ
Phono Overload Level (T.H.D: 0.1%, 1 kHz)	100mV
Output (Level/Impedance)	
TAPE REC, ADAPTOR OUT	150 mV/2.2 kΩ
Frequency Response	
PHONO 20 Hz to 20 kHz (RIAA equalization)	±1 dB
TUNER, CD, VIDEO, ADAPTOR IN, TAPE PLAY 10 Hz to 50 kHz	±3 dB
Graphic equalizer	
60 Hz	±10 dB
150 Hz	±10 dB
400 Hz	±10 dB
1 kHz	±10 dB
2.4 kHz	±10 dB
6 kHz	±10 dB
15 kHz	±10 dB
Hum and Noise (IHF, short circuited, A network)	
PHONO	72 dB
CD, VIDEO, ADAPTOR IN, TAPE PLAY	96 dB

Miscellaneous

Power Requirements	AC 120 V, 60 Hz
Power Consumption	480 W (UL), 620 VA (CSA)
Dimensions	420 (W) x 145 (H) x 320 (D) mm 16-1/2 (W) x 5-3/4 (H) x 12-5/8 (D) in
Weight (without package)	9.2 kg (20 lb 5 oz)

Furnished Parts

Remote control unit	1
Batteries AAA/R03	2
Operating Instructions	1

NOTE:
- *Specifications and design subject to possible modification without notice due to improvements.*
- **Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Claims for Amplifier.*

3. PA

Parts List

Mark	No.
	1
	2
	3
	4
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	52
	53

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2. SPECIFICATIONS

Amplifier Section

Continuous average power output is 130 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

Input (Sensitivity/Impedance)
PHONO .... 2.5 mV/50 kΩ
CD, VIDEO, TAPE PLAY,
ADAPTOR IN .... 150 mV/50 kΩ
Phono Overload Level (T.H.D: 0.1%, 1 kHz) 100mV
Output (Level/Impedance)
TAPE REC, ADAPTOR OUT ...... 150 mV/2.2 kΩ
Frequency Response
PHONO 20 Hz to 20 kHz (RIAA equalization) .. ±1 dB
TUNER, CD, VIDEO, ADAPTOR IN, TAPE PLAY
10 Hz to 50 kHz .... ±3 dB
Graphic equalizer
60 Hz .... ±10 dB
150 Hz .... ±10 dB
400 Hz .... ±10 dB
1 kHz .... ±10 dB
2.4 kHz .... ±10 dB
6 kHz .... ±10 dB
15 kHz .... ±10 dB
Hum and Noise (IHF, short circuited, A network)
PHONO .... 72 dB
CD, VIDEO, ADAPTOR IN,
TAPE PLAY .... 96 dB

Miscellaneous

Power Requirements .... AC 120 V, 60 Hz
Power Consumption ...... 480 W (UL), 620 VA (CSA)
Dimensions .... 420 (W) x 145 (H) x 320 (D) mm
16-1/2 (W) x 5-3/4 (H) x 12-5/8 (D) in
Weight (without package) .... 9.2 kg (20 lb 5 oz)

Furnished Parts

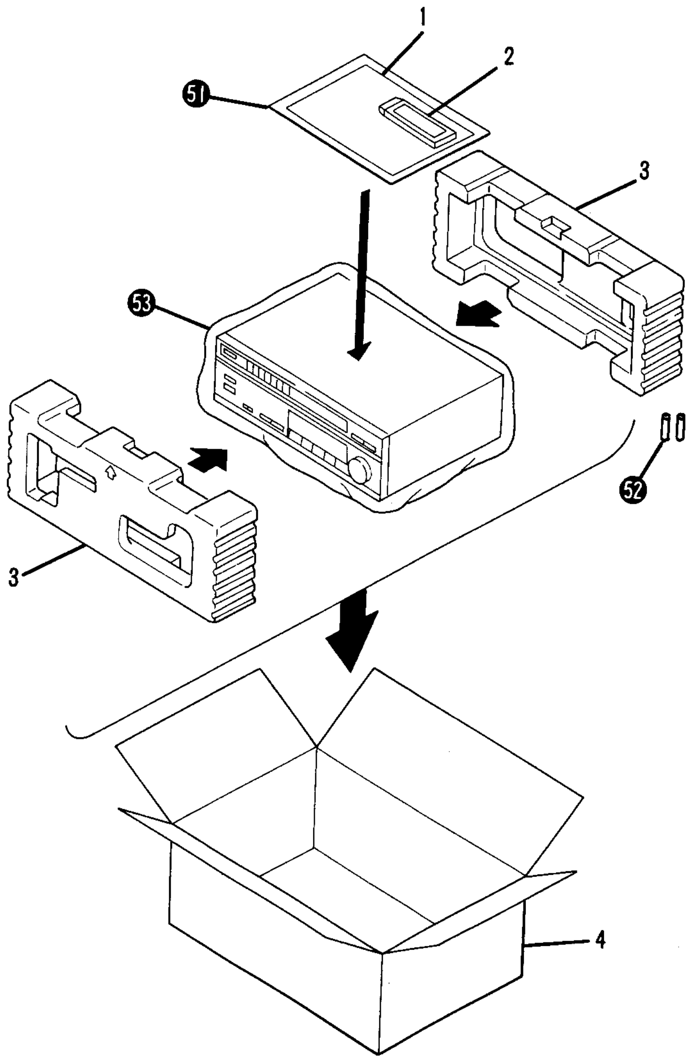
Remote control unit 1
Batteries AAA/R03 2
Operating Instructions 1

NOTE:
- *Specifications and design subject to possible modification without notice due to improvements.*
- **Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Claims for Amplifier.*

3. PACKING

Parts List Packing

Mark	No.	Part No.	Description
	1	ARB1066	Operating instructions (English)
	2	AXD1021	Remote control unit (OEM)
	3	AHA1064	Pad
	4	AHD1207	Packing case
	51		Bag
	52		Battery (SUM-4)
	53		Polyethylene sheet

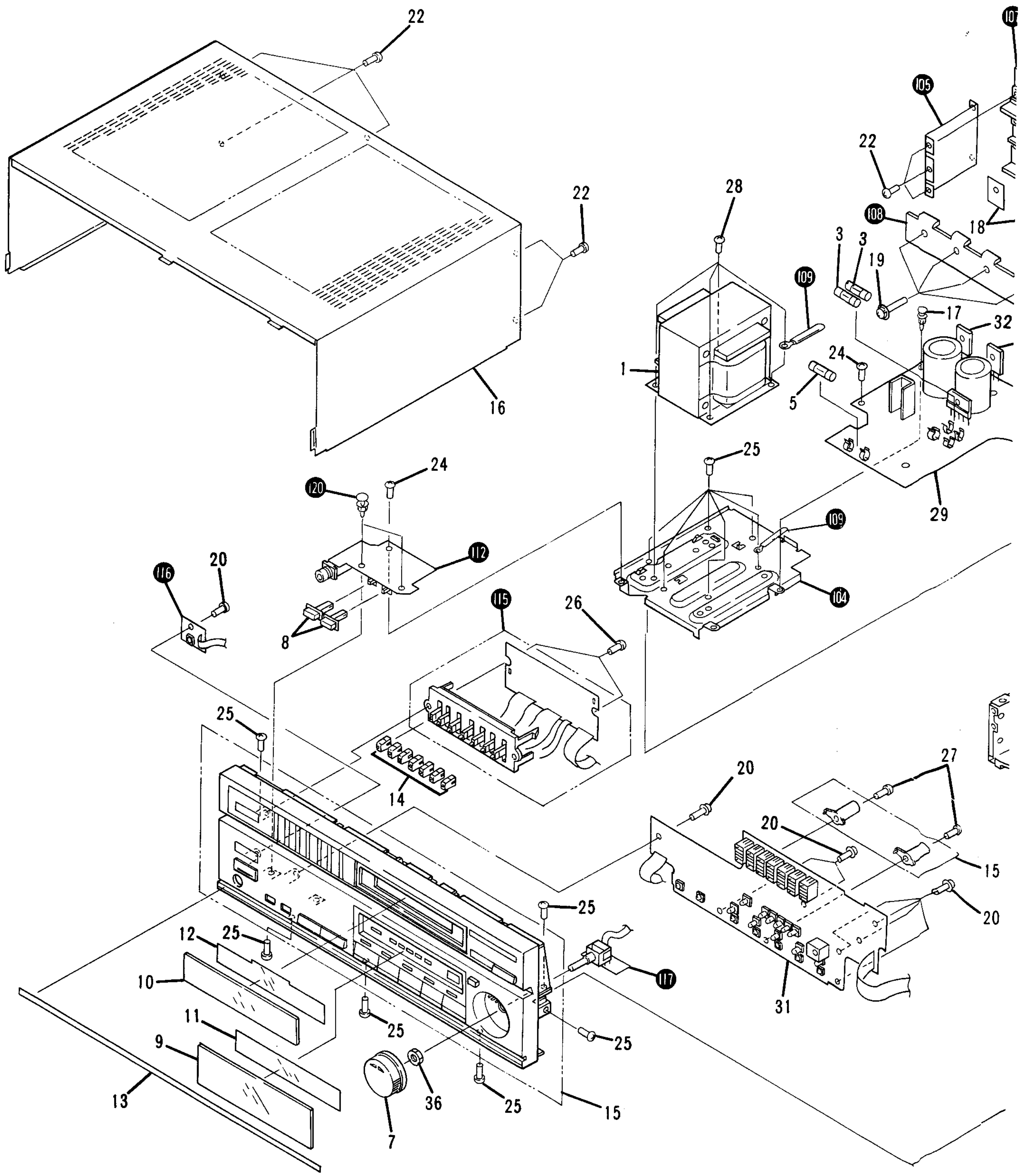


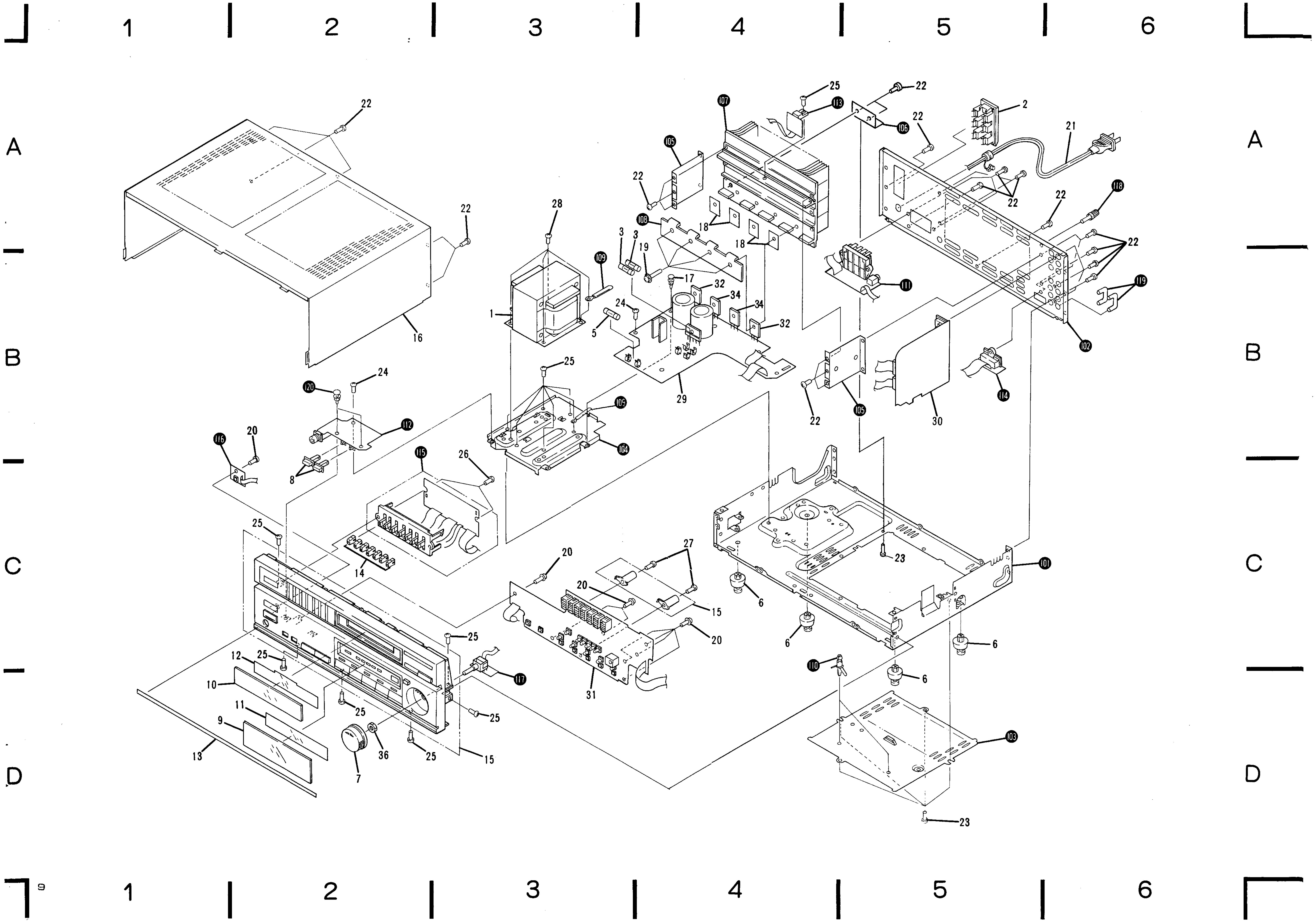
4. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

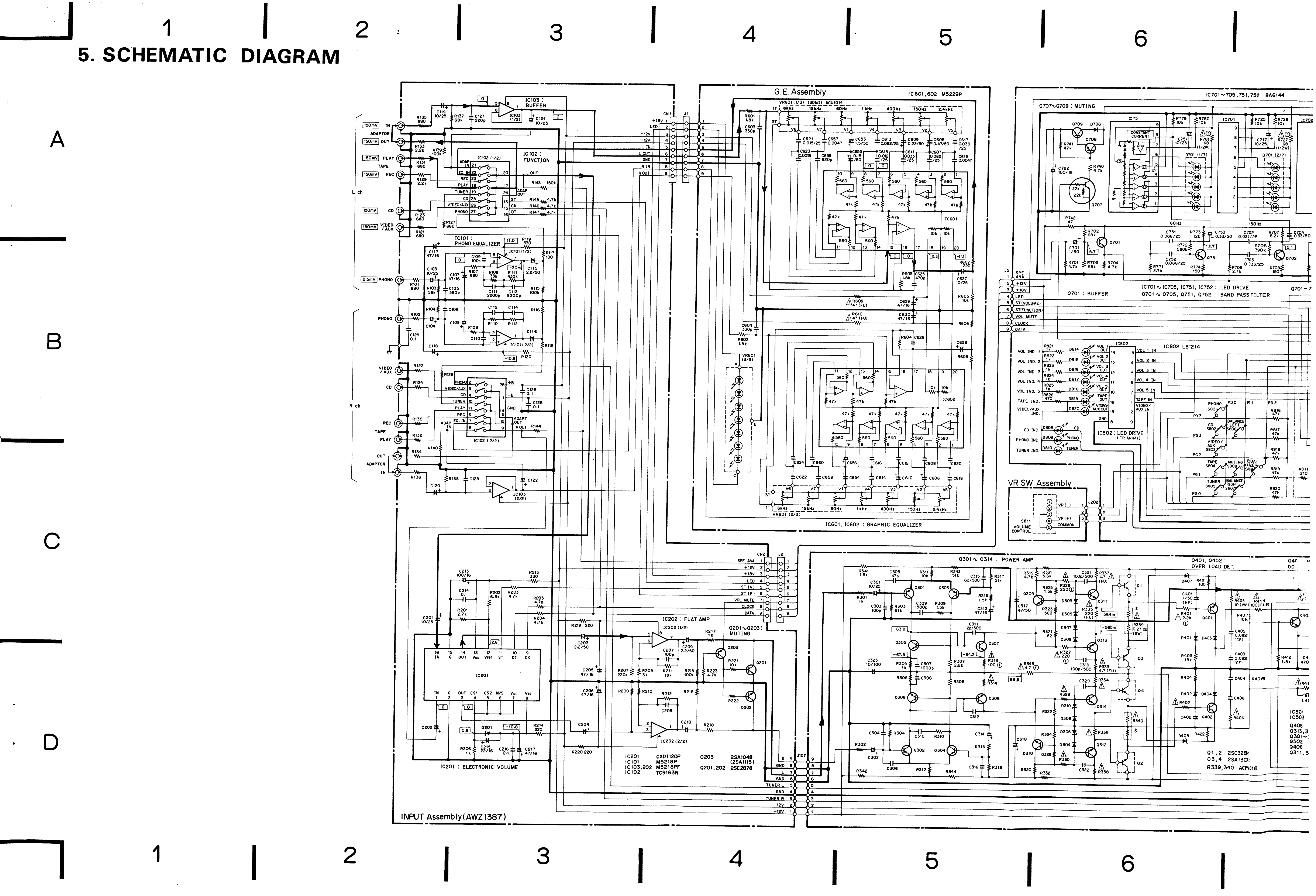
Mark	No.	Part No.	Description
⚠ ★	1	ATS1074	T1 Power transformer
⚠	2	AKP-515	AC socket (OUTLETS, 3P)
⚠ ★★	3	AEK-122	FU3, FU4 Fuse (2A/125V)
	4		········
⚠ ★★	5	AEK-309	FU1 Fuse (6.3A/125V)
	6	AEC-784	Leg assembly
	7	AAB1024	VR knob assembly (VOLUME)
	8	AAD1140	Push knob (SPEAKERS)
	9	AAK1242	Panel A
	10	AAK1243	Panel B
	11	AAK1244	Sheet panel A
	12	AAK1245	Sheet panel B
	13	AAK1248	Sash
	14	AAY-135	Slide knob (GRAPHIC EQUALIZER)
	15	AMB1174	Front panel assembly
	16	ANE1066	Bonnet case
	17	AEC-510	Nylon rivet
	18	AEP-313	Mica sheet
	19	ABA-258	Screw
	20	ABZ26P080FZK	Screw (2.6 x 8)
⚠	21	ADG-089	AC power cord
	22	BBT30P080FZK	Screw (3 x 8)
	23	BBZ30P060FZK	Screw (3 x 6)
	24	BBZ30P080FMC	Screw (3 x 8)
	25	BBZ30P080FZK	Screw (3 x 8)
	26	BPZ30P080FZK	Screw (3 x 8)
	27	PBZ26P100FMC	Screw (2.6 x 10)
	28	VBZ40P080FMC	Screw (4 x 8)
	29	AWZ1385	AF assembly
	30	AWZ1387	Input assembly
	31	AWZ1397	Microcomputer assembly
★★	32	2SC3281	Q1, Q2 Transistor
	33		········
★★	34	2SA1302	Q3, Q4 Transistor
	35		
	36	NK70FUC	Nut

Mark	No.	Part No.	Description
	101		Chassis
	102		Rear panel
	103		Bottom plate
	104		Trans frame
	105		Heat sink holder
	106		Heat sink holder
	107		Heat sink
	108		Sub heat sink
	109		Binder
	110		PCB spacer
	111		Output assembly
	112		SP. SW assembly
	113		IC assembly
	114		Connector assembly
	115		G.E. assembly
	116		Tact switch assembly
	117		VR switch assembly
	118		Terminal (GND)
	119		Jumper plug
	120		Pin grommet




A
B
C
D

5. SCHEMATIC DIAGRAM



1
2
3
4
5
6
A
B
C
D
L ch
R ch
IC103 : BUFFER
IC102 : FUNCTION
IC101 : PHONO EQUALIZER
IC102 (2/2)
IC103 (2/2)
G.E. Assembly
IC601,602 M5229P
VR601 (1/3) (30kΩ) ACU1014
6kHz
15kHz
60Hz
1kHz
400Hz
150Hz
2.4kHz
IC601
IC602
VR601 (3/3)
VR601 (2/3)
IC601, IC602 : GRAPHIC EQUALIZER
IC701~705,751,752 BA6144
Q707~Q709 : MUTING
IC751
CONSTANT CURRENT
D701 (1/7)
D701 (2/7)
Q701 : BUFFER
IC701~IC705, IC751, IC752 : LED DRIVE
Q701~Q705, Q751, Q752 : BAND PASS FILTER
IC802 LB1214
IC802 : LED DRIVE (TR ARRAY)
VR SW Assembly
S811 VOLUME CONTROL
VR (-)
VR (+)
COMMON
IC201 : ELECTRONIC VOLUME
IC202 : FLAT AMP
Q201~Q203 : MUTING
IC201 CXD1120P
IC101 M5218P
IC103,202 M5218PF
IC102 TC9163N
Q203 2SA1048 (2SA1115)
Q201,202 2SC2878
Q301~Q314 : POWER AMP
Q401, Q402 : OVER LOAD DET.
Q1,2 2SC328
Q3,4 2SA130
R339,340 ACN018
INPUT Assembly (AWZ1387)
CN1
J1
CN2
J2
J107
J202

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.

1. RESISTORS:
Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
▭ : Signal voltage at 130W + 130W, 8Ω output (1kHz)
▭ . DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power
⇦ mA : DC current at no input signal

4. OTHERS:
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (The underline indicates the switch position)

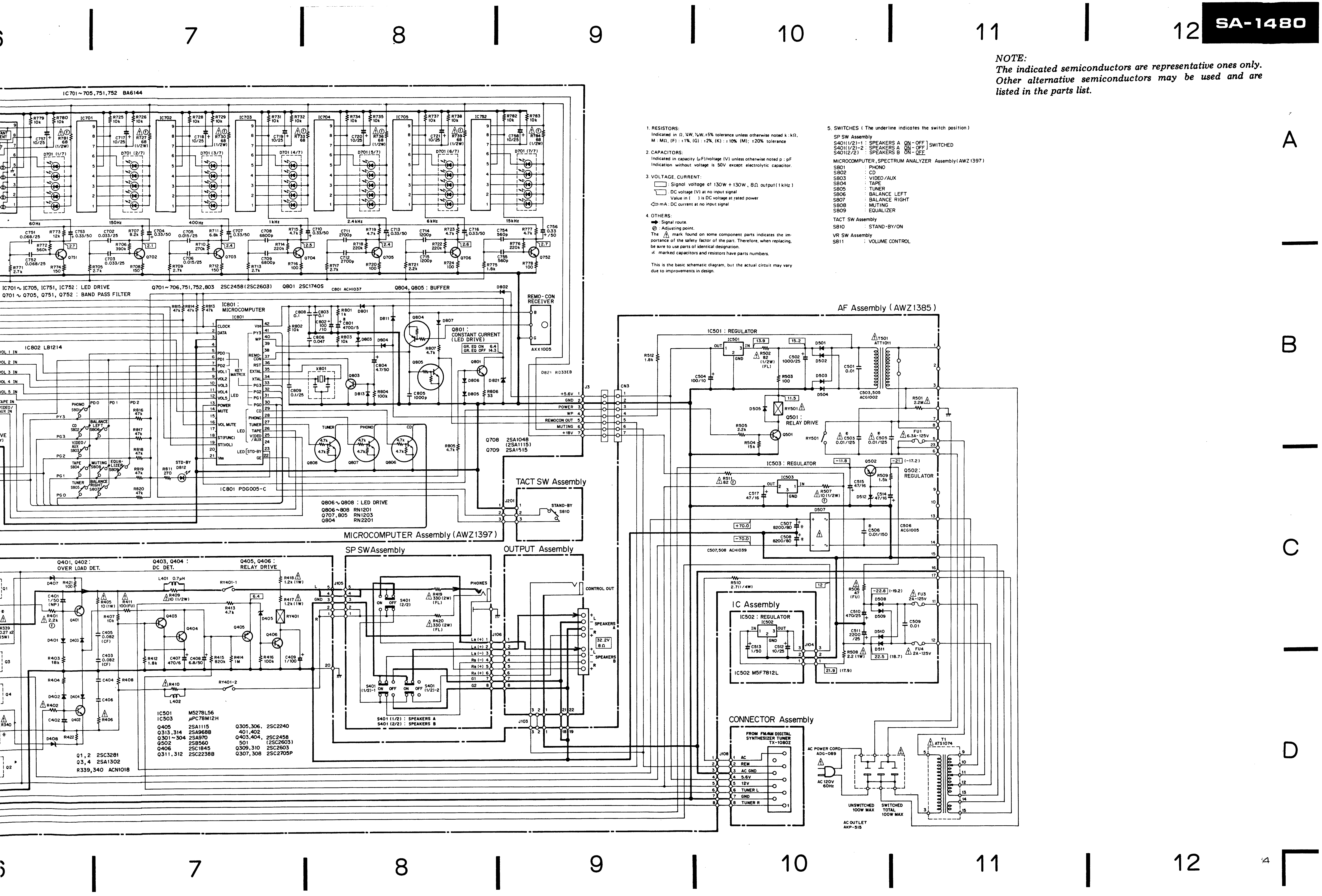
SP SW Assembly
S401(1/2)-1 : SPEAKERS A ON - OFF] SWITCHED
S401(1/2)-2 : SPEAKERS A ON - OFF]
S401(2/2) : SPEAKERS B ON - OFF

MICROCOMPUTER, SPECTRUM ANALYZER Assembly (AWZ1397)

S801	PHONO
S802	CD
S803	VIDEO/AUX
S804	TAPE
S805	TUNER
S806	BALANCE LEFT
S807	BALANCE RIGHT
S808	MUTING
S809	EQUALIZER

TACT SW Assembly
S810 : STAND-BY/ON

VR SW Assembly
S811 : VOLUME CONTROL


7
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60Hz
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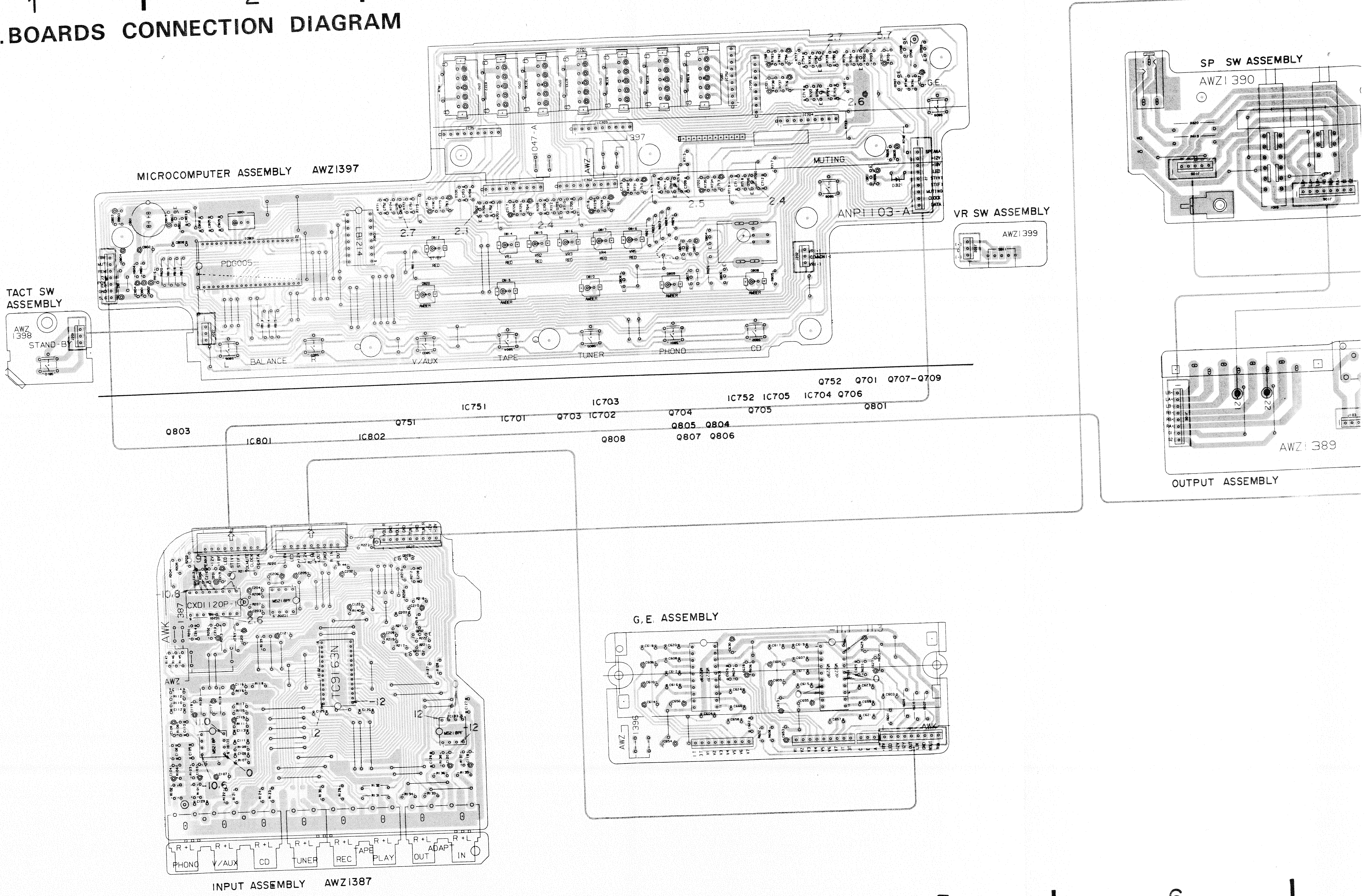
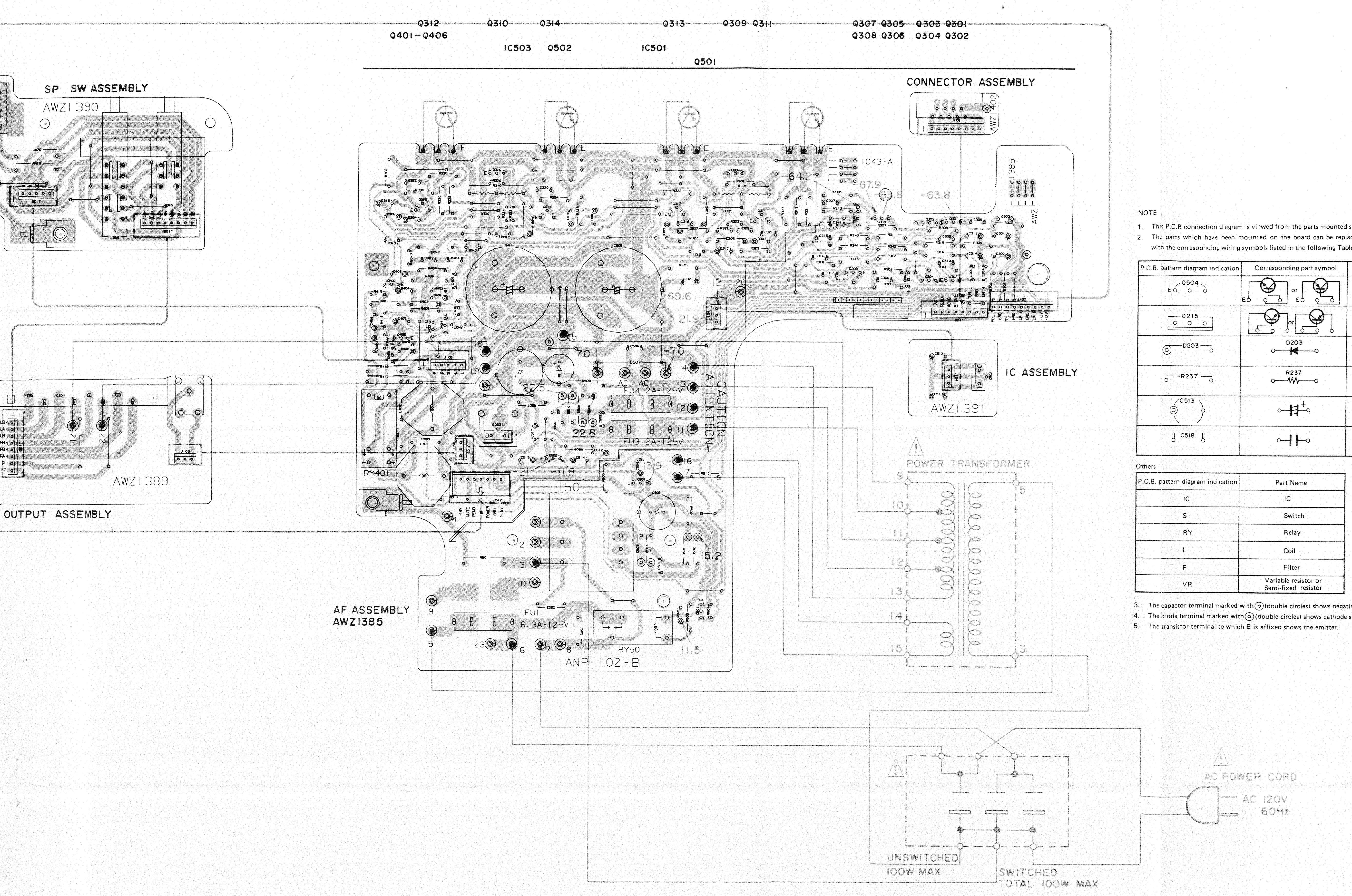
6kHz
15kHz
IC701 ~ IC705, IC751, IC752 : LED DRIVE
Q701 ~ Q705, Q751, Q752 : BAND PASS FILTER
Q701 ~ 706, 751, 752, 803 2SC2458 (2SC2603)
Q801 2SC1740S
C801 ACH1037
Q804, Q805 : BUFFER
REMO-CON RECEIVER
AXX1005
IC801 : MICROCOMPUTER
IC802 LB1214
IC801 PDG005-C
Q801 : CONSTANT CURRENT (LED DRIVE)
GR. EQ ON 6.4
GR. EQ OFF 14.3
D821 RD33EB
Q806 ~ Q808 : LED DRIVE
Q806 ~ 808 RN1201
Q707, 805 RN1203
Q804 RN2201
Q708 2SA1048 (2SA1115)
Q709 2SA1515
MICROCOMPUTER Assembly (AWZ1397)
TACT SW Assembly
STAND-BY S810
SP SW Assembly
OUTPUT Assembly
Q401, Q402 : OVER LOAD DET.
Q403, Q404 : DC DET.
Q405, Q406 : RELAY DRIVE
PHONES
CONTROL OUT
SPEAKERS A
SPEAKERS B
S401 (1/2) : SPEAKERS A
S401 (2/2) : SPEAKERS B
IC501 M5278L56
IC503 μPC78M12H
Q405 2SA1115
Q313, 314 2SA968B
Q301 ~ 304 2SA970
Q502 2SB560
Q406 2SC1845
Q311, 312 2SC2238B
Q305, 306, 2SC2240
401, 402
Q403, 404, 2SC2458
501 (2SC2603)
Q309, 310 2SC2603
Q307, 308 2SC2705P
Q1, 2 2SC3281
Q3, 4 2SA1302
R339, 340 ACN1018
AF Assembly (AWZ1385)
IC501 : REGULATOR
ATT1011
Q501 : RELAY DRIVE
IC503 : REGULATOR
Q502 : REGULATOR
C507, 508 ACH1039
ACG1005
ACG1002
IC Assembly
IC502 : REGULATOR
IC502 M5F7812L
CONNECTOR Assembly
FROM FM/AM DIGITAL SYNTHESIZER TUNER TX-1080Z
AC POWER CORD ADG-089
AC 120V 60Hz
UNSWITCHED 100W MAX
SWITCHED TOTAL 100W MAX
AC OUTLET AKP-515
T1 ATS1074

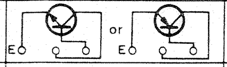
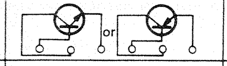
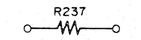
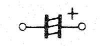
6. P.C.BOARDS CONNECTION DIAGRAM


1
2
3
4
5
6
A
B
C
D
MICROCOMPUTER ASSEMBLY AWZ1397
ANP1103-A
PDG005
LB1214
MUTING
G.E.
STAND-BY
BALANCE
L
R
V/AUX
TAPE
TUNER
PHONO
CD
RED
AMBER
2.7
2.1
2.4
2.5
2.6
5.7
TACT SW ASSEMBLY
AWZ 1398
STAND-BY
VR SW ASSEMBLY
AWZ1399
SP SW ASSEMBLY
AWZ1390
OUTPUT ASSEMBLY
AWZ1389
Q752 Q701 Q707–Q709
IC752 IC705 IC704 Q706
IC703
IC751
IC701
Q703 IC702
Q704
Q705
Q801
Q751
Q805 Q804
Q807 Q806
Q803
IC801
IC802
Q808
G.E. ASSEMBLY
AWZ1396
AWK
INPUT ASSEMBLY AWZ1387
AWK
AWZ
CXD1120P-1
M5218P
TC9163N
10.8
10.6
11.0
12
R+L
PHONO
V/AUX
CD
TUNER
REC
TAPE
PLAY
OUT
ADAPT
IN


Q312
Q401–Q406
Q310
Q314
IC503
Q502
Q313
IC501
Q309 Q311
Q501
Q307 Q305 Q303 Q301
Q308 Q306 Q304 Q302
SP SW ASSEMBLY
AWZ1 390
CONNECTOR ASSEMBLY
AWZ1 402
1043-A
1385
-64
67.9
-63.8
69.6
21.9
12
20
15
70
-70
14
13
AC
FU4 2A-125V
FU3 2A-125V
22.5
22.8
CAUTION
ATTENTION
IC ASSEMBLY
AWZ1 391
AWZ1 389
OUTPUT ASSEMBLY
RY401
-21
-11.6
T501
13.9
16
17
15.2
POWER TRANSFORMER
9
10
11
12
13
14
15
5
3
AF ASSEMBLY
AWZ1385
FU1
6.3A-125V
RY501
11.5
23
6
7
8
ANP1102-B
UNSWITCHED
100W MAX
SWITCHED
TOTAL 100W MAX
AC POWER CORD
AC 120V
60Hz
A
B
C
D

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 E○ ○ ○		Transistor
Q215 ○ ○ ○		Radiator type transistor
◎ D203 ○		Diode
○ R237 ○		Resistor
C513 ◎ ○		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎ (double circles) shows negatine termianl.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

NOTE

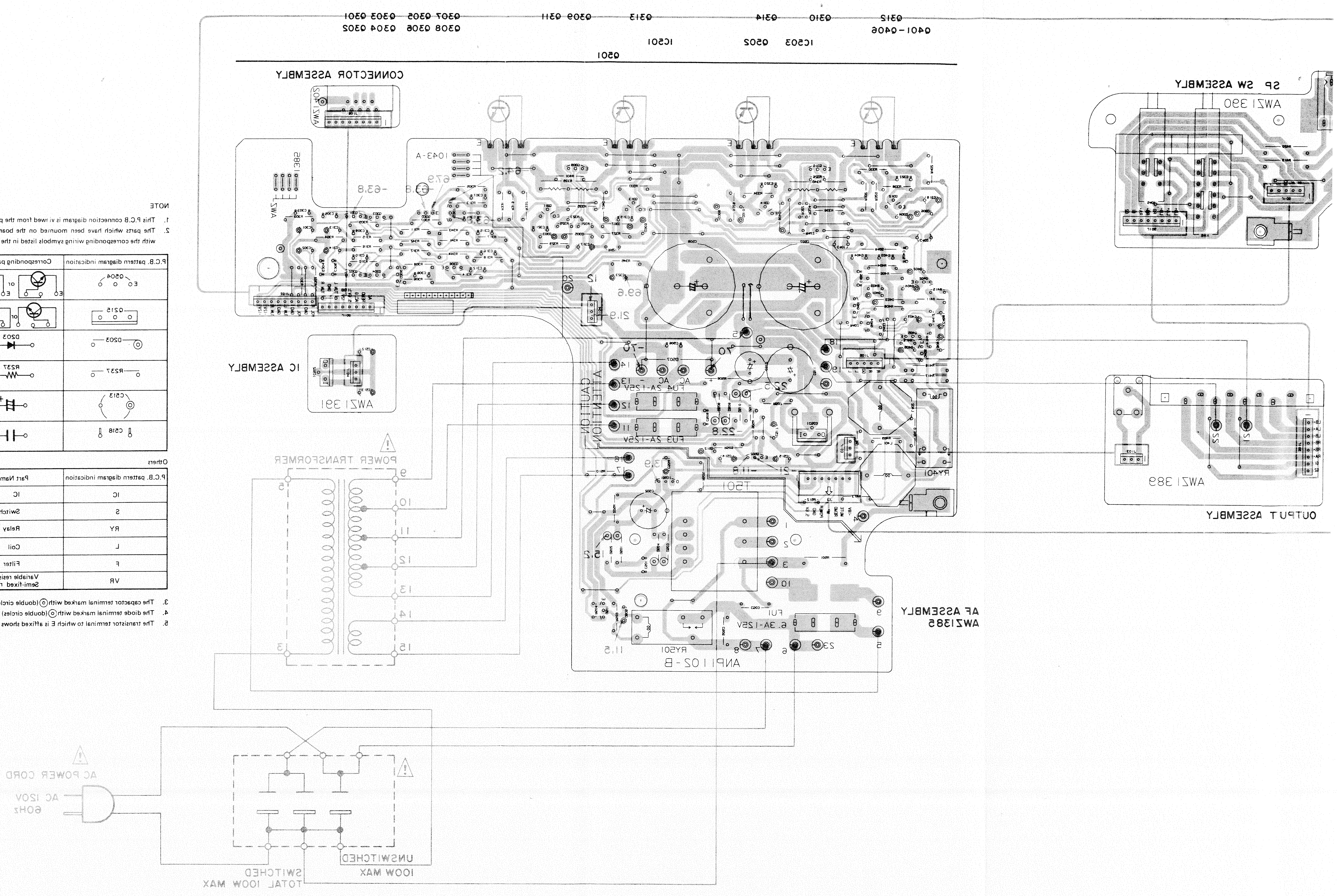
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 E	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	C513 +	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

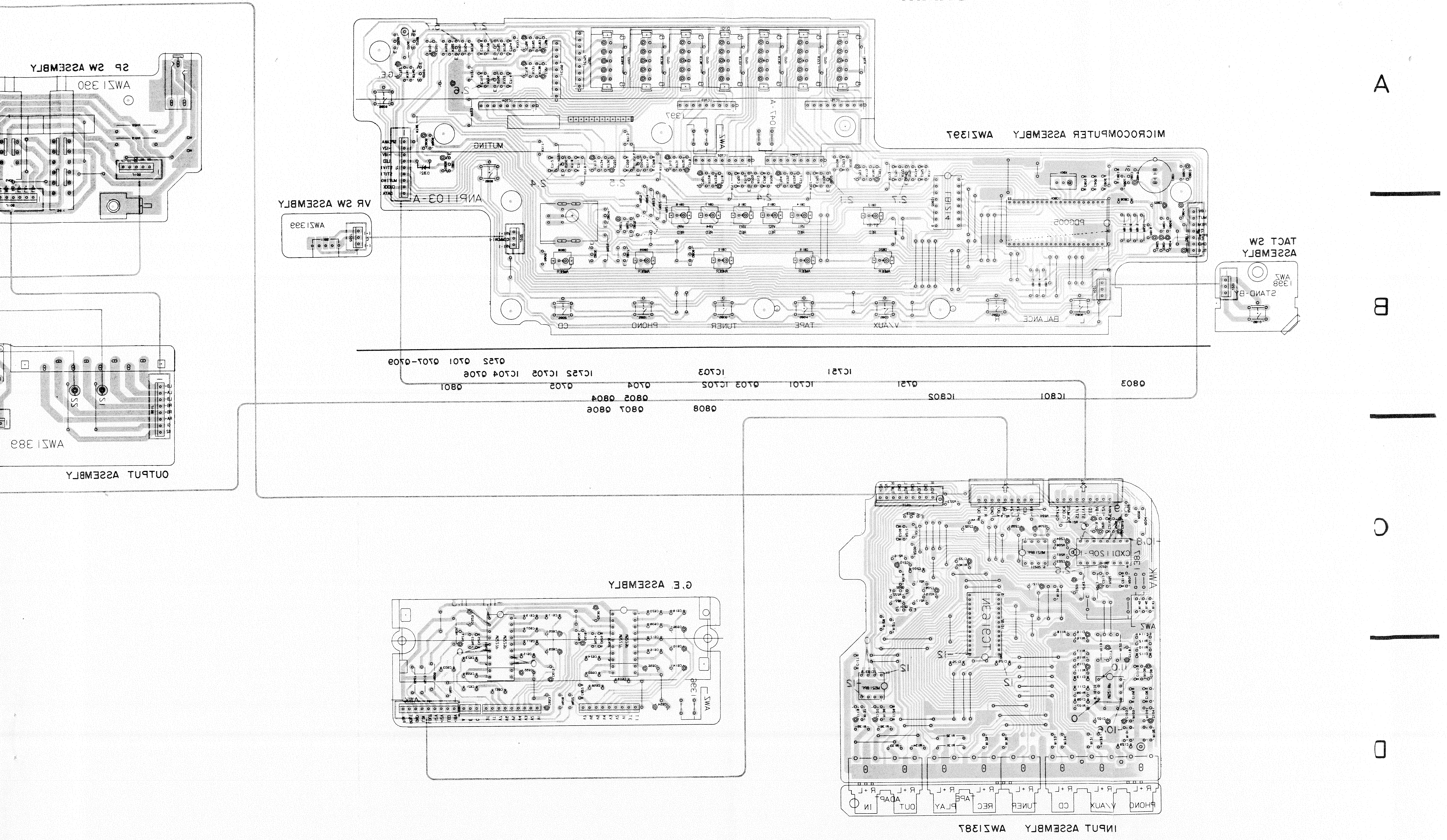
Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

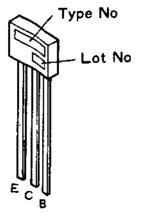
3. The capacitor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.


Q301 Q303 Q305 Q307
Q302 Q304 Q306 Q308
Q309 Q311
Q313
Q314
Q310
Q312
D401–D406
IC501
Q502
IC503
Q501
CONNECTOR ASSEMBLY
AWZ-102
AWZ1382
IC ASSEMBLY
AWZ1391
SP SW ASSEMBLY
AWZ1390
OUTPUT ASSEMBLY
AWZ1389
AF ASSEMBLY
AWZ1385
ANP1102-B
CAUTION
ATTENTION
FU4 2A-125V
FU3 2A-125V
FU1 6.3A-125V
RY501
RY401
T501
POWER TRANSFORMER
AC POWER CORD
AC 120V
60Hz
SWITCHED
TOTAL 100W MAX
UNSWITCHED
100W MAX

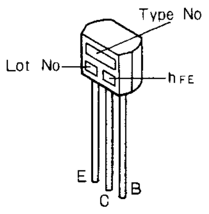
6. P.C.BOARDS CONNECTION DIAGRAM


1
2
3
4
5
6
A
B
C
D
SP SW ASSEMBLY
AWZ1390
MICROCOMPUTER ASSEMBLY AWZ1397
ANP1103-A
MUTING
PD6005
VR SW ASSEMBLY
AWZ1399
TACT SW ASSEMBLY
AWZ1398
STAND-B
CD
PHONO
TUNER
TAPE
V/AUX
BALANCE
Q752 Q701 Q707–Q709
IC752 IC705 IC704 Q706
IC703
IC751
Q801
Q705
Q704
Q703 IC702
IC701
Q751
Q803
Q805 Q804
Q807 Q806
Q808
IC802
IC801
OUTPUT ASSEMBLY
AWZ1389
G.E. ASSEMBLY
TC9163N
CXD1120P-1
INPUT ASSEMBLY AWZ1387
ADAPT IN
OUT
TAPE PLAY
REC
TUNER
CD
V/AUX
PHONO
R L

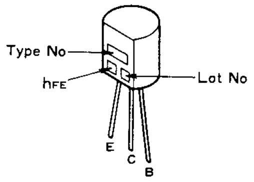
RN1201
RN1203
RN2201



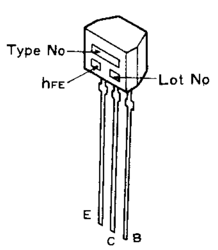
2SA1115
2SC2603



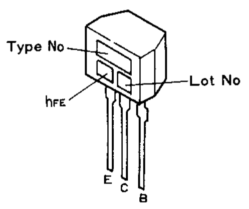
2SA1515



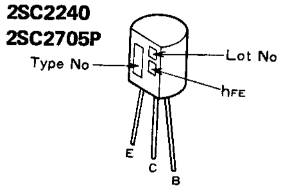
2SA1048
2SC2458



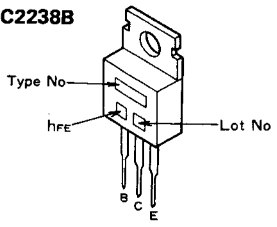
2SC1740S



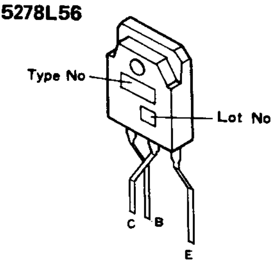
2SC2878
2SA970
2SC2240
2SC2705P



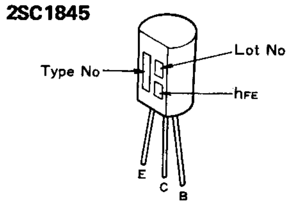
2SA968B
2SC2238B



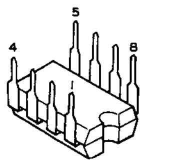
M5278L56



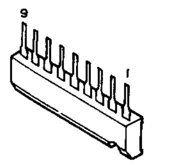
2SB560
2SC1845



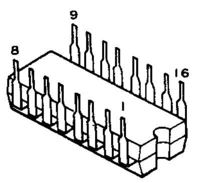
M5218P
M5218PF



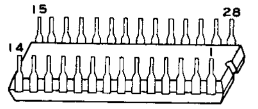
BA6144



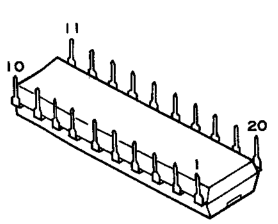
LB1214
CXD1120P



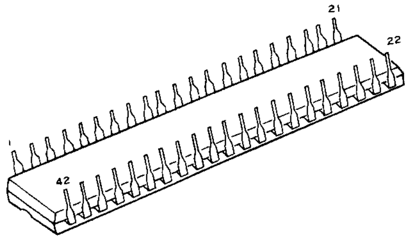
TC9163N



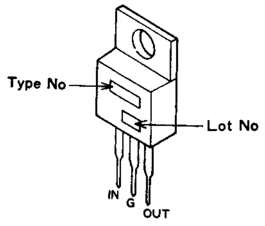
M5229P



PDG005-C



μPC78M12H



7. ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).
  560Ω 56 × 10¹ 561……………RD1/4PS 5 6 1 J
  47kΩ 47 × 10³ 473……………RD1/4PS 4 7 3 J
  0.5Ω 0R5……………RN2H 0 R 5 K
  1Ω 010……………RS1P 0 1 0 K
  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62kΩ 562 × 10¹ 5621……………RN1/4SR 5 6 2 1 F

Miscellaneous Parts

P.C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	AF assembly	AWZ1385
	Input assembly	AWZ1387
	Microcomputer assembly	AWZ1397
	Output assembly	
	SP switch assembly	
	IC assembly	
	Tact switch assembly	
	VR switch assembly	
	G.E. assembly	
	Connector assembly	

OTHERS

Mark	Symbol & Description	Part No.
★★	Q3, Q4	2SA1302
★★	Q1, Q2	2SC3281
⚠ ★	T1 Power transformer	ATS1074
⚠	AC socket (OUTLETS, 3P)	AKP-515
⚠ ★★	FU3, FU4 Fuse (2A/125V)	AEK-122
⚠ ★★	FU1 Fuse (6.3A/125V)	AEK-309
⚠	AC power cord	ADG-089

AF Assemby (AWZ1385)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC501	M5278L56
★★	IC503	μPC78M12H
★★	Q405	2SA1115
★★	Q313, Q314	2SA968B
★★	Q301–Q304	2SA970
★★	Q502	2SB560
★★	Q406	2SC1845
★★	Q311, Q312	2SC2238B
★★	Q305, Q306, Q401, Q402	2SC2240
★★	Q403, Q404, Q501	2SC2458 (2SC2603)
★★	Q309, Q310	2SC2603
★★	Q307, Q308	2SC2705P
★	D507	D5SB20F
★	D305, D306, D309, C310	HZS4BLL
★	D405	HZS6B1L
★	D512	RD13ESB1
★	D407, D408	RD2.7ESB1
★	D501–D504, D508–D511	S5566 (11E2)
★	D303, D304, D307, D308, D401–D404, D505	1SS131

RELAYS

Mark	Symbol & Description	Part No.
★★	RY401 Relay (PROTECTION)	ASR-112
⚠ ★★	RY501 Relay (POWER)	ASR1012 (ASR1013)

COILS AND

Mark	Symb
	L401,
⚠ ★	T501

CAPACITORS

Mark	Symbo
⚠	C503,
	C506
	C507,
	C311,
	C315,
	C303,
	C319–
	C305,
	C401, C409
	C323
	C301,
	C504
	C502
	C511
	C313,
	C317,
	C510
	C407
	C408
	C40
	C30
	C501
	C309,

RESISTORS

Mark	Symbol
⚠	R501
⚠	R339,
⚠	R405,
⚠	R417,
⚠	R508
⚠	R502
⚠	R409,
⚠	R313,
	R345,
	R301–
	R332,
	R509
⚠	R333–
	Other resi

COILS AND TRANSFORMER

Mark	Symbol & Description	Part No.
	L401, L402 AF choke coil (0.7μH)	ATH1004
⚠ ★	T501 Power transformer (DC14V)	ATT1011

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C503, C505 (0.01μF/AC125V)	ACG1002
	C506 (0.01μF/150V)	ACG1005
	C507, C508 (8200μF/80V)	ACH1039
	C311, C312	CCCSL020C500 (CCDSL020C500)
	C315, C316	CCCSL060D500 (CCDSL060D500)
	C303, C304	CCCSL101J50 (CCDSL101J50)
	C319–C322	CCCSL101K500 (CCDSL101K500)
	C305, C306	CCCSL470J50 (CCDSL470J50)
	C401, C402	CEANP010M50
	C409	CEAS010M100
	C323	CEAS100M100
	C301, C302	CEAS100M25
	C504	CEAS101M10
	C502	CEAS102M25
	C511	CEAS222M25
	C313, C314, C514, C515, C517	CEAS470M16
	C317, C318	CEAS470M50
	C510	CEAS471M25
	C407	CEAS471M6
	C408	CEAS6R8M50
	C403–C406	CFTXA823J50
	C307, C308	CKCYB102K50 (CKDYB102K50)
	C501, C509	CKCYF103Z50 (CKDYF103Z50)
	C309, C310	CKCYB152K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R501 (2.2M, 1/2W)	ACN-208
⚠	R339, R340 (0.27x2, 5W)	ACN1018
⚠	R405, R406	RS1PMF100J
⚠	R417, R418	RS1PMF122J
⚠	R508	RS1PMF2R2J
⚠	R502	RD1/2PMFL820J
⚠	R409, R410, R507	RD1/2PMF100J
⚠	R313, R314, R327–R330, R345, R401, R402	RD1/4PMF□□□J
	R301–R312, R315–R320, R331, R332, R341–R344, R503, R510, R509	RD1/4PM□□□J
⚠	R333–R338, R411, R506	RFA1/4PS□□□J
	Other resistors	RD1/8PM□□□J

Input Assembly (AWZ1387)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC201	CXD1120P
★★	IC101	M5218P
★★	IC103, IC202	M5218PF
★★	IC102	TC9163N
★★	Q203	2SA1048 (2SA1115)
★★	Q201, Q202	2SC2878
★	D201	RD5.1ESB1

CAPACITORS

Mark	Symbol & Description	Part No.
	C109, C110, C207, C208	CCCSL101J50 (CCDSL101J50)
	C127, C128	CCCSL221J50 (CCDSL221J50)
	C103, C104, C119–C122, C201, C202	CEAS100M25
	C213	CEAS101M16
	C115, C116, C203, C204, C209, C210	CEAS2R2M50
	C215	CEAS220M16
	C107, C108, C117, C118, C205, C206, C217	CEAS470M16
	C111, C112	CKCYB222K50 (CKDYB222K50)
	C105, C106	CKCYB391K50 (CKDYB391K50)
	C113, C114	CKCYB822K50 (CKDYB822K50)
	C125, C126, C129, C214, C216	CKCYX104M25 (CKDYX104M25)

RESISTORS

Mark	Symbol & Description	Part No.
	R119, R120, R213, R214, R219, R220	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P	AKB1007
	Terminal 6P	AKB1024

Microcomputer Assembly (AWZ1397)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC701–IC705, IC751, IC752	BA6144
★★	IC802	LB1214
★★	IC801	PDG005-C
★★	Q806–Q808	RN1201
★★	Q707, Q805	RN1203
★★	Q804	RN2201
★★	Q708	2SA1048 (2SA1115)
★★	Q709	2SA1515
★★	Q801	2SC1740S
★★	Q701–Q706, Q751, Q752, Q803	2SC2458 (2SC2603)
★	D808–D810, D819, D820	AEL1015
★	D812, D814–D818	AEL1017
★	D701	AEL1043
★	D803	RD4.7ESB2
★	D706	S5566 (11E2)
★	D801, D802, D804–D807, D811, D813	1SS131
★	D821	RD33EB

SWITCHES

Mark	Symbol & Description	Part No.
★★	S801–S809 Tact switch [PHONO, CD, VIDEO/AUX, TAPE, TUNER, BALANCE-L, BALANCE-R, MUTING, EQUALIZER]	ASG-711

CAPACITORS

Mark	Symbol & Description	Part No.
	C801 (47000μF/5.5V)	ACH1037
	C704, C707, C710, C713, C716, C753, C756	CEASR33M50
	C701	CEAS010M50
	C717–C721, C757, C758	CEAS100M25
	C802	CEAS101M10
	C722	CEAS101M16
	C804	CEAS4R7M50
	C805	CKCYB102K50 (CKDYB102K50)
	C714, C715	CKCYB122K50 (CKDYB122K50)
	C711, C712	CKCYB272K50 (CKDYB272K50)
	C754, C755	CKCYB561K50
	C708, C709	CKCYB682K50 (CKDYB682K50)
	C806	CKCYF473Z50 (CKDYF473Z50)
	C809, C803, C808	CKCYX104M25 (CKDYX104M25)
	C705, C706	CKCYX153M25 (CKDYX153M25)
	C702, C703	CKCYX333M25 (CKDYX333M25)
	C751, C752	CKCYX683M25 (CKDYX683M25)

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R727, R730, R733, R736, R739, R781, R784	RD1/2PMF680J
	R742	RD1/4PM470J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X801 Ceramic oscillator (4,00MHz)	ASS1010
	Remote control sensor unit	AXX1005

Output Assembly

OTHERS

Mark	Symbol & Description	Part No.
	Speaker terminal (8P)	AKE-111
	Mini jack	AKN-207

SP SW Assembly

SWITCHES

Mark	Symbol & Description	Part No.
★★	S401 Push switch (SPEAKERS)	SUL8LXYS

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R419, R420	RS2LMF331J

OTHERS

Mark	Symbol & Description	Part No.
	Headphone jack	AKN1002

IC Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC502	M5F7812L

CAPACITORS

Mark	Symbol & Description	Part No.
	C513	CEHAQ010M50
	C512	CEHAQ100M25

Tact Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S810 Tact switch (STAND-BY)	ASG-711

VR Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S811 Momentary switch (VOLUME CONTROL)	ASD1001

G.E. Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601, IC602	M5229P

CAPACITORS

Mark	Symbol & Description	Part No.
	C655, C656	CEASR15M50
	C609, C610	CEASR22M50
	C605, C606	CEASR47M50
	C653, C654	CEAS1R5M50
	C627, C628	CEAS100M25
	C629, C630	CEAS470M16
	C623, C624	CKCYB182K50 (CKDYB182K50)
	C603, C604	CKCYB331K50 (CKDYB331K50)
	C625, C626	CKCYB471K50 (CKDYB471K50)
	C619, C620, C657, C658	CKCYB472K50 (CKDYB472K50)
	C659, C660	CKCYB821K50 (CKDYB821K50)
	C615, C616	CKCYX123M25 (CKDYX123M25)
	C621, C622	CKCYX153M25 (CKDYX153M25)
	C611, C612, C617, C618	CKCYX333M25 (CKDYX333M25)
	C607, C608, C613, C614	CKCYX823M25 (CKDYX823M25)

RESISTORS

Mark	Symbol & Description	Part No.
★	VR601 Variable resistor (GRAPHIC EQUALIZER, 30k)	ACU1014
⚠	R609, R610	RF1/4PS470J
	Other resistors	RD1/8PM□□□J

Connector assembly

There is no parts supply for the connector assembly.

8. FOR SA-1280/KUC TYPE

8.1 CONTRAST OF MISCELLANEOUS PARTS

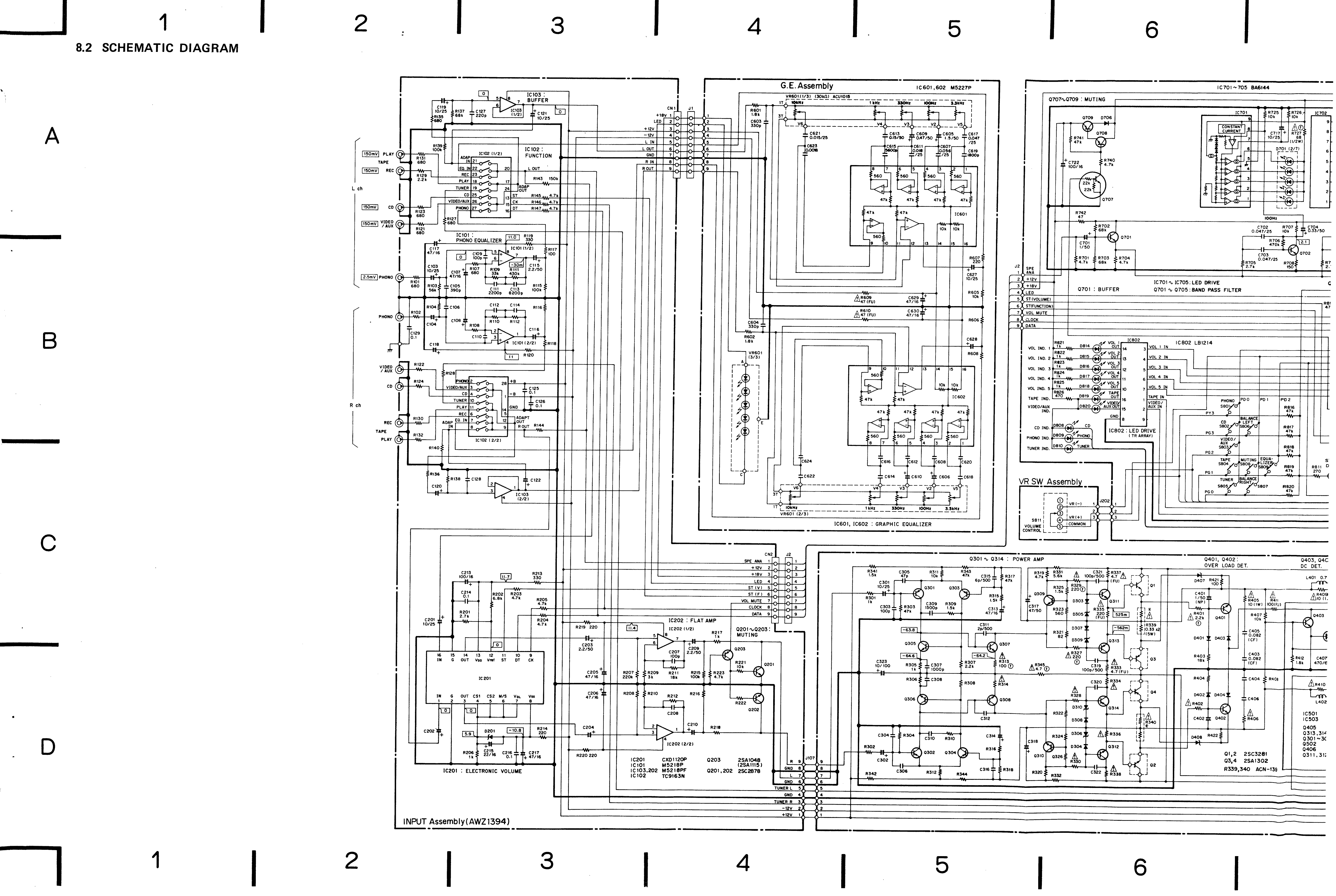
NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

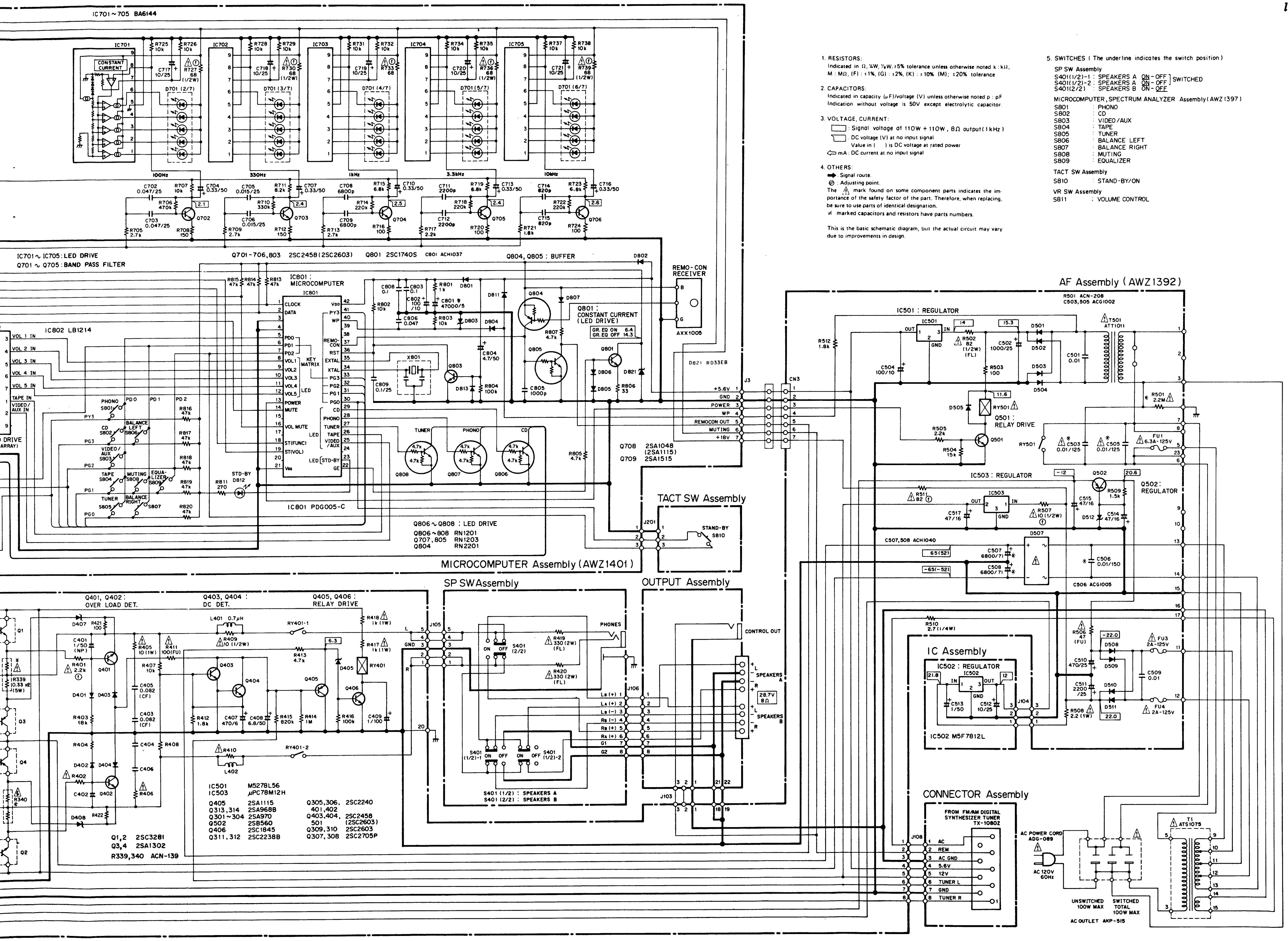
The SA-1280/KUC type is the same as the SA-1480/KUC with the exception of the following sections.

Mark	**Symbol & Description**	**Part No.**		**Remarks**
		SA-1480/ KUC type	**SA-1280/ KUC type**	
	AF assembly	AWZ1385	AWZ1392	
	Input assembly	AWZ1387	AWZ1394	
	Microcomputer assembly	AWZ1397	AWZ1401	
	G.E. assembly	Non supply	Non supply	
	Panel B	AAK1243	AAK1249	
	Sheet B	AAK1245	AAK1250	
	Front panel	AMB1174	AMB1172	
	Packing case	AHD1207	AHD1208	
	Operating instructions (English)	ARB1066	ARB1065	
⚠ ★	T1 Power transformer (AC120V)	ATS1074	ATS1075	

8.2 SCHEMATIC DIAGRAM


1
2
3
4
5
6
A
B
C
D
INPUT Assembly(AWZ1394)
IC103 : BUFFER
IC102 : FUNCTION
IC101 : PHONO EQUALIZER
IC201 : ELECTRONIC VOLUME
IC202 : FLAT AMP
Q201～Q203 : MUTING
IC201 CXD1120P
IC101 M5218P
IC103,202 M5218PF
IC102 TC9163N
Q203 2SA1048 (2SA1115)
Q201,202 2SC2878
L ch
R ch
PLAY
TAPE
REC
CD
VIDEO / AUX
PHONO
G.E. Assembly
IC601,602 M5227P
VR601(1/3) (30kΩ) ACU1015
VR601 (2/3)
VR601 (3/3)
IC601, IC602 : GRAPHIC EQUALIZER
10kHz
1kHz
330Hz
100Hz
3.3kHz
CN1
J1
CN2
J2
J107
+18V
+12V
−12V
L IN
L OUT
GND
R IN
R OUT
SPE ANA
LED
ST (V)
ST (F)
VOL MUTE
CLOCK
DATA
TUNER L
TUNER R
Q707～Q709 : MUTING
IC701～705 BA6144
Q701 : BUFFER
IC701～IC705 : LED DRIVE
Q701～Q705 : BAND PASS FILTER
IC802 LB1214
IC802 : LED DRIVE (TR ARRAY)
VOL IND. 1
VOL IND. 2
VOL IND. 3
VOL IND. 4
VOL IND. 5
TAPE IND.
VIDEO/AUX IND.
CD IND.
PHONO IND.
TUNER IND.
VR SW Assembly
S811 VOLUME CONTROL
VR (−)
VR (+)
COMMON
Q301～Q314 : POWER AMP
Q401, Q402 : OVER LOAD DET.
Q403, Q4 DC DET.
Q1,2 2SC3281
Q3,4 2SA1302
R339,340 ACN-13

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.


6
7
8
9
10
11
12
A
B
C
D
IC701～705 BA6144
IC701～IC705: LED DRIVE
Q701～Q705: BAND PASS FILTER
100Hz
330Hz
1kHz
3.3kHz
10kHz
Q701-706,803 2SC2458(2SC2603)
Q801 2SC1740S
C801 ACH1037
Q804, Q805 : BUFFER
IC801 : MICROCOMPUTER
IC802 LB1214
IC801 PDG005-C
Q801 : CONSTANT CURRENT (LED DRIVE)
GR.EQ ON 6.4
GR.EQ OFF 14.3
REMO-CON RECEIVER
AXX1005
D821 RD33EB
Q708 2SA1048 (2SA1115)
Q709 2SA1515
Q806～Q808 : LED DRIVE
Q806～808 RN1201
Q707,805 RN1203
Q804 RN2201
MICROCOMPUTER Assembly (AWZ1401)
TACT SW Assembly
STAND-BY S810
AF Assembly (AWZ1392)
R501 ACN-208
C503,505 ACG1002
IC501 : REGULATOR
Q501 : RELAY DRIVE
IC503 : REGULATOR
Q502 : REGULATOR
C507,508 ACH1040
C506 ACG1005
IC Assembly
IC502 : REGULATOR
IC502 M5F7812L
CONNECTOR Assembly
FROM FM/AM DIGITAL SYNTHESIZER TUNER TX-1080Z
AC POWER CORD ADG-089
AC 120V 60Hz
UNSWITCHED 100W MAX
SWITCHED TOTAL 100W MAX
AC OUTLET AKP-515
T1 ATS1075
Q401, Q402 : OVER LOAD DET.
Q403, Q404 : DC DET.
Q405, Q406 : RELAY DRIVE
SP SWAssembly
S401 (1/2) : SPEAKERS A
S401 (2/2) : SPEAKERS B
OUTPUT Assembly
CONTROL OUT
PHONES
SPEAKERS A
SPEAKERS B
IC501 M5278L56
IC503 μPC78M12H
Q405 2SA1115
Q313,314 2SA968B
Q301～304 2SA970
Q502 2SB560
Q406 2SC1845
Q311,312 2SC2238B
Q305,306, 401,402 2SC2240
Q403,404, 501 2SC2458 (2SC2603)
Q309,310 2SC2603
Q307,308 2SC2705P
Q1,2 2SC3281
Q3,4 2SA1302
R339,340 ACN-139

1. RESISTORS:
Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
▭ : Signal voltage at 110W + 110W, 8Ω output (1kHz)
▭ : DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power
⇦ mA : DC current at no input signal

4. OTHERS:
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
⁎ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (The underline indicates the switch position)

SP SW Assembly
S401(1/2)-1 : SPEAKERS A ON - OFF] SWITCHED
S401(1/2)-2 : SPEAKERS A ON - OFF]
S401(2/2) : SPEAKERS B ON - OFF

MICROCOMPUTER, SPECTRUM ANALYZER Assembly (AWZ1397)
S801 : PHONO
S802 : CD
S803 : VIDEO/AUX
S804 : TAPE
S805 : TUNER
S806 : BALANCE LEFT
S807 : BALANCE RIGHT
S808 : MUTING
S809 : EQUALIZER

TACT SW Assembly
S810 : STAND-BY/ON

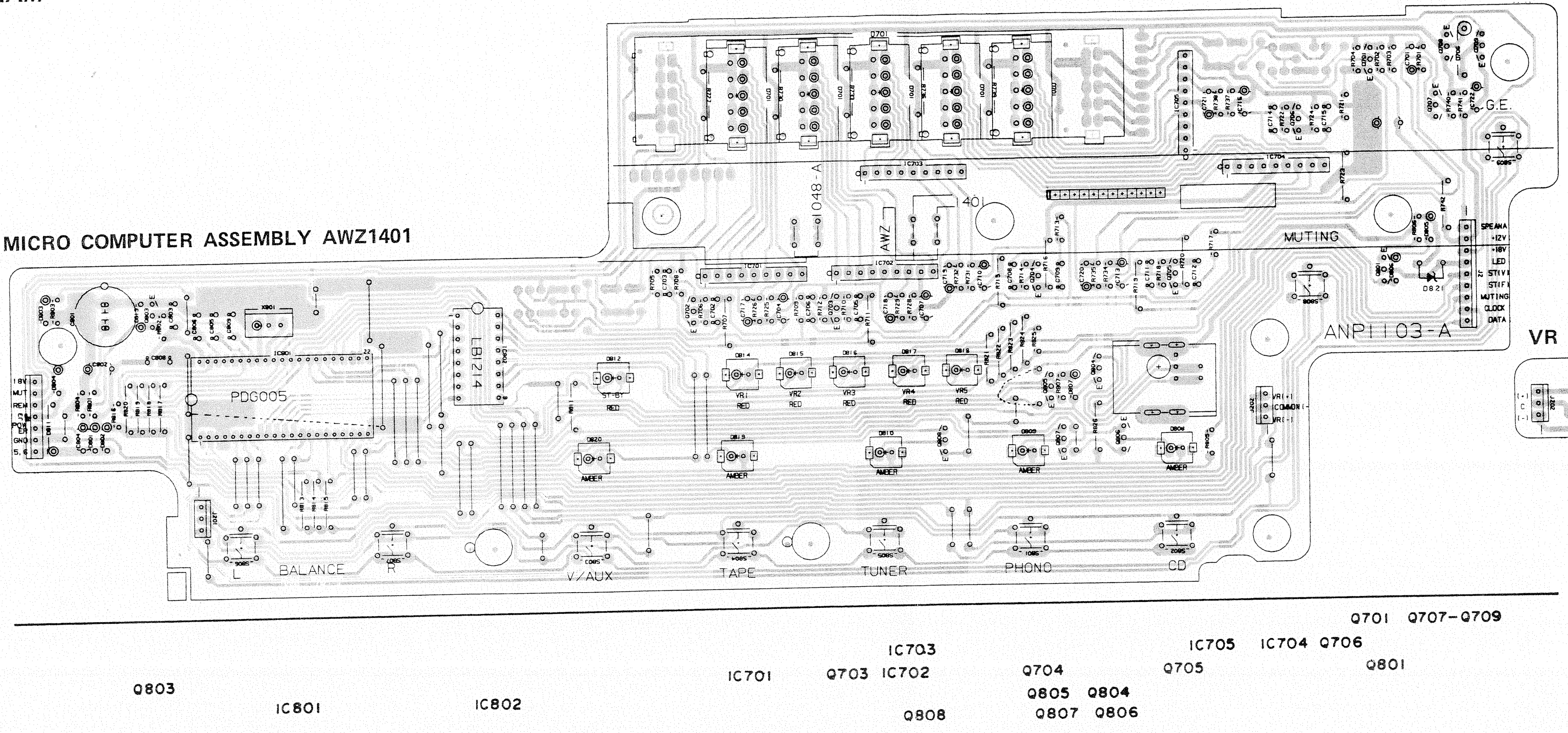
VR SW Assembly
S811 : VOLUME CONTROL

1 2 3 4 5 6

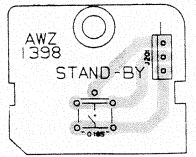
8.3 P.C. BOARDS DIAGRAM

A

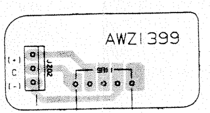
MICRO COMPUTER ASSEMBLY AWZ1401


PDG005
LB1214
1048-A
AWZ
401
G.E.
MUTING
ANP1103-A
STAND-BY
BALANCE
V/AUX
TAPE
TUNER
PHONO
CD
RED
AMBER
Q701 Q707–Q709
IC703
IC705 IC704 Q706
IC701 Q703 IC702
Q704 Q705 Q801
Q803
Q805 Q804
IC801 IC802
Q808 Q807 Q806

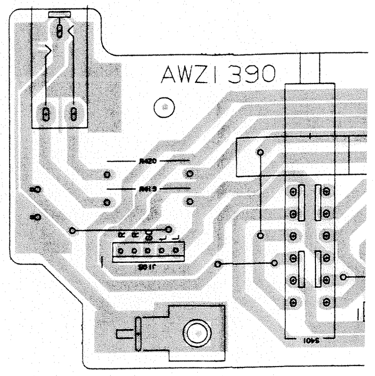
TACT SW ASSEMBLY


AWZ 1398
STAND-BY

VR SW ASSEMBLY

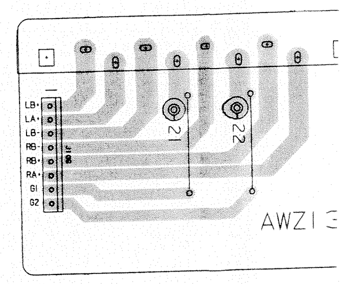


SP SW ASSEMBLY



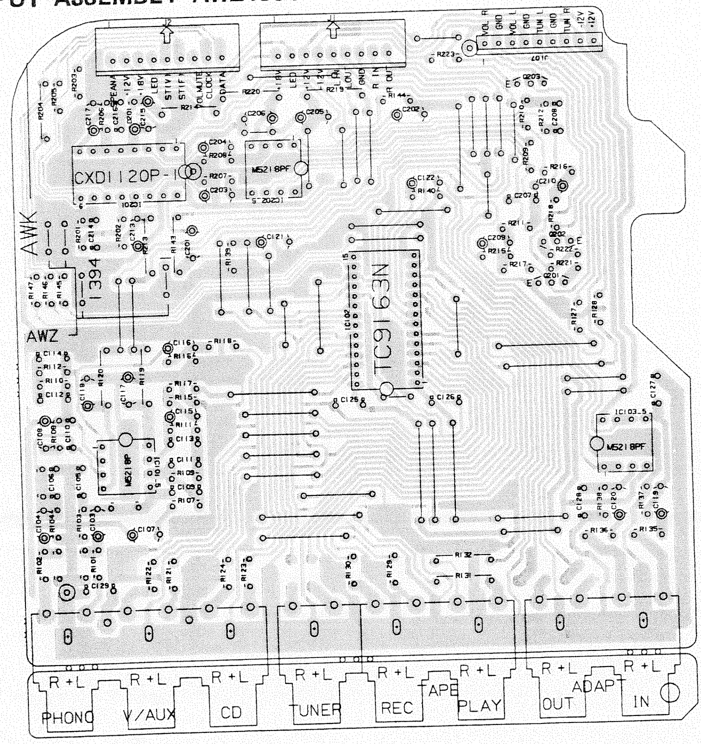
B

OUTPUT ASSEMBLY

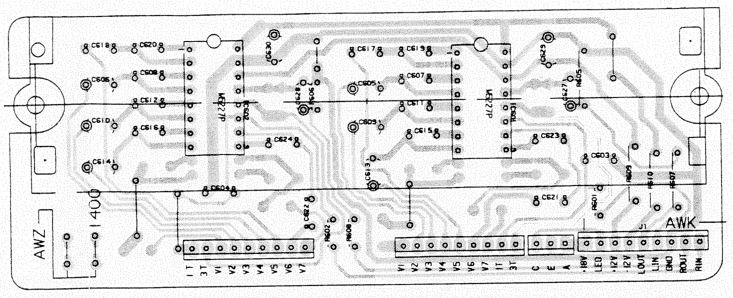


C

INPUT ASSEMBLY AWZ1394


CXD1120P-1
M5218P
TC9163N
AWK
1394
AWZ
R+L
PHONO
V/AUX
CD
TUNER
REC
TAPE
PLAY
OUT
ADAP
IN

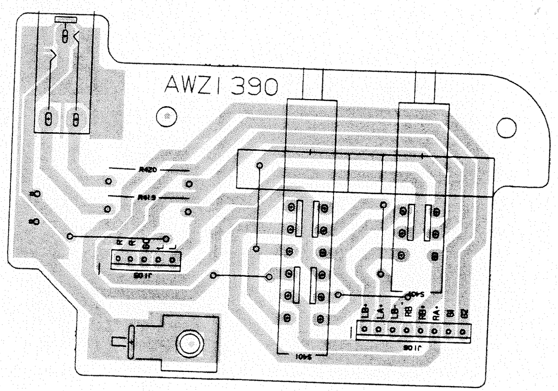
GE ASSEMBLY


AWZ
1400
AWK

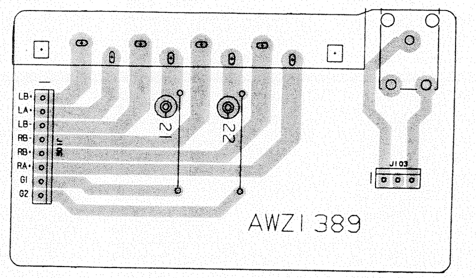
D

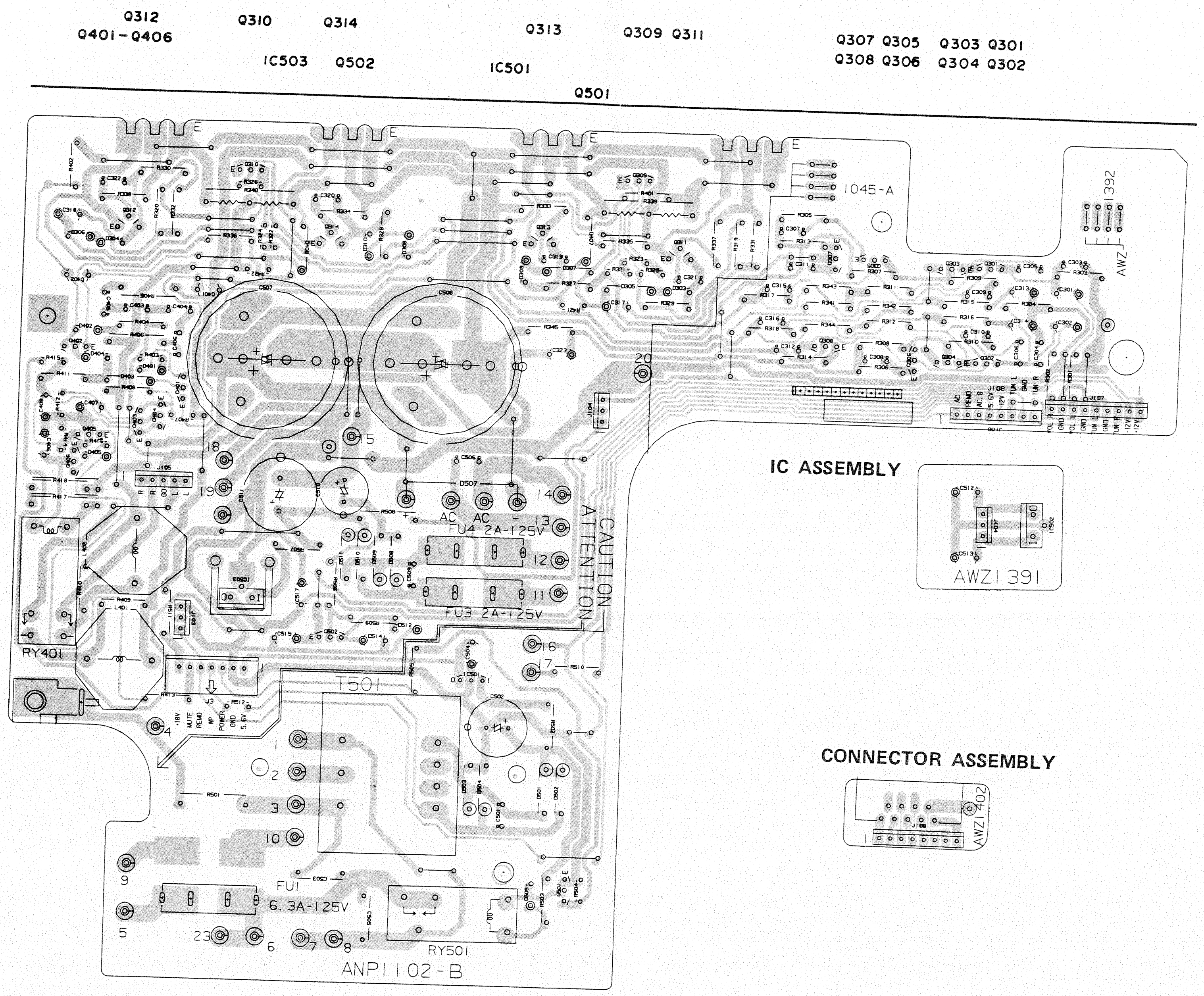
1 2 3 4 5 6

SP SW ASSEMBLY



OUTPUT ASSEMBLY


LB+
LA+
LB-
RB
RB-
RA-
G1
G2
21
22
J103
AWZ1389


Q312
Q401–Q406
Q310
Q314
IC503
Q502
Q313
IC501
Q309 Q311
Q307 Q305
Q308 Q306
Q303 Q301
Q304 Q302
Q501
E
1045-A
AWZ1392
20
18
19
15
14
13
12
11
16
17
AC
AC
FU4 2A-125V
FU3 2A-125V
CAUTION
ATTENTION
RY401
T501
1
2
3
10
9
5
23
6
7
8
4
FU1
6.3A-125V
RY501
ANP1102-B

AF ASSEMBLY
AWZ1392

IC ASSEMBLY

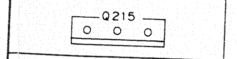
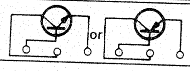
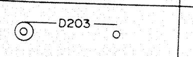
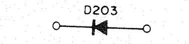
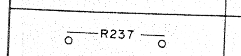
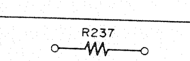
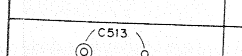
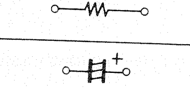
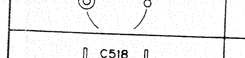
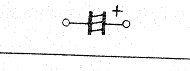
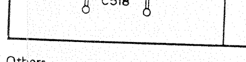
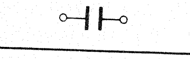
AWZ1391

CONNECTOR ASSEMBLY

AWZ1402

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎ (double circles) shows negatine termianl.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

A

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 E	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

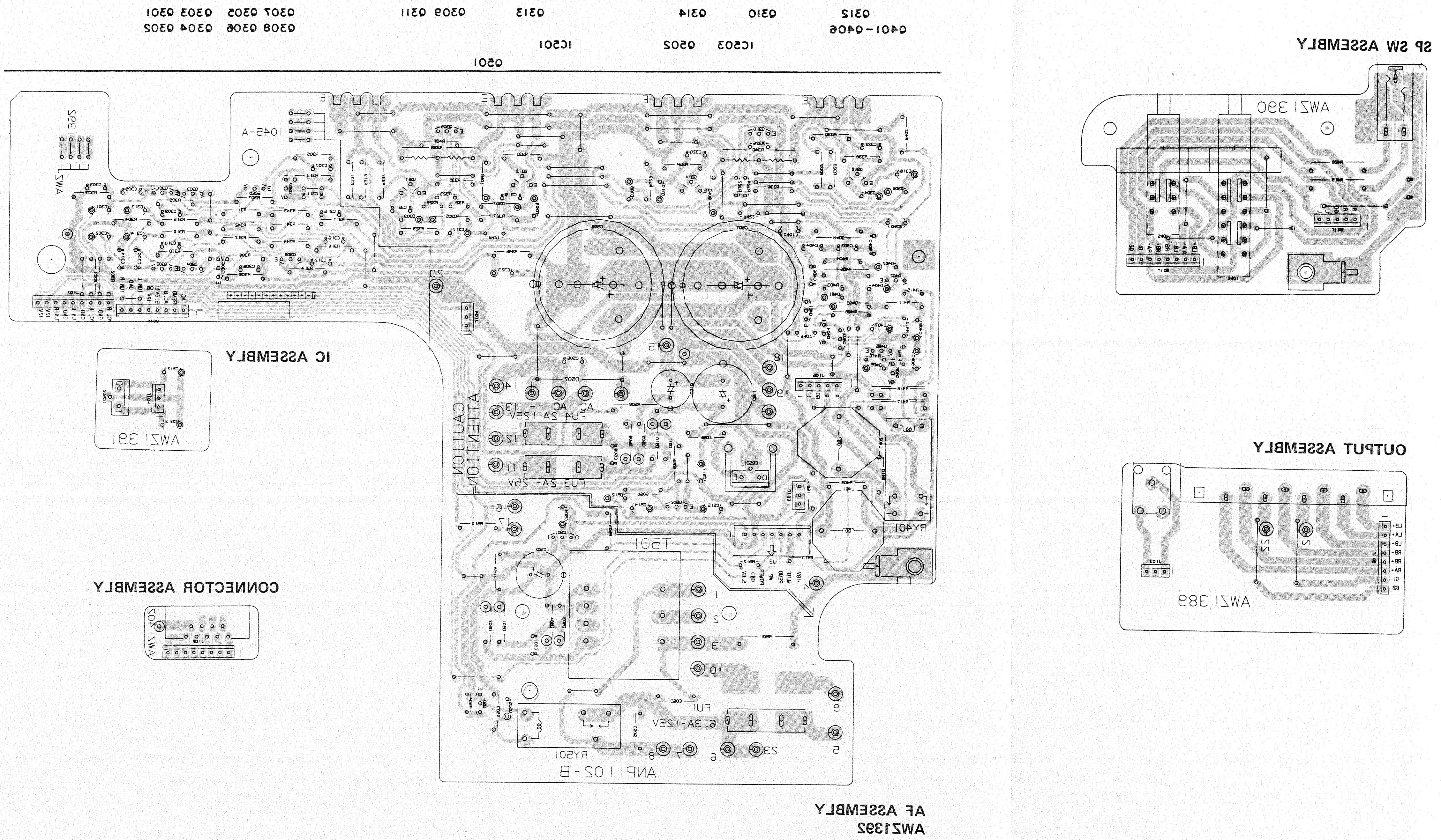
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎(double circles) shows negatine terminal.
4. The diode terminal marked with ◎(double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

B

C

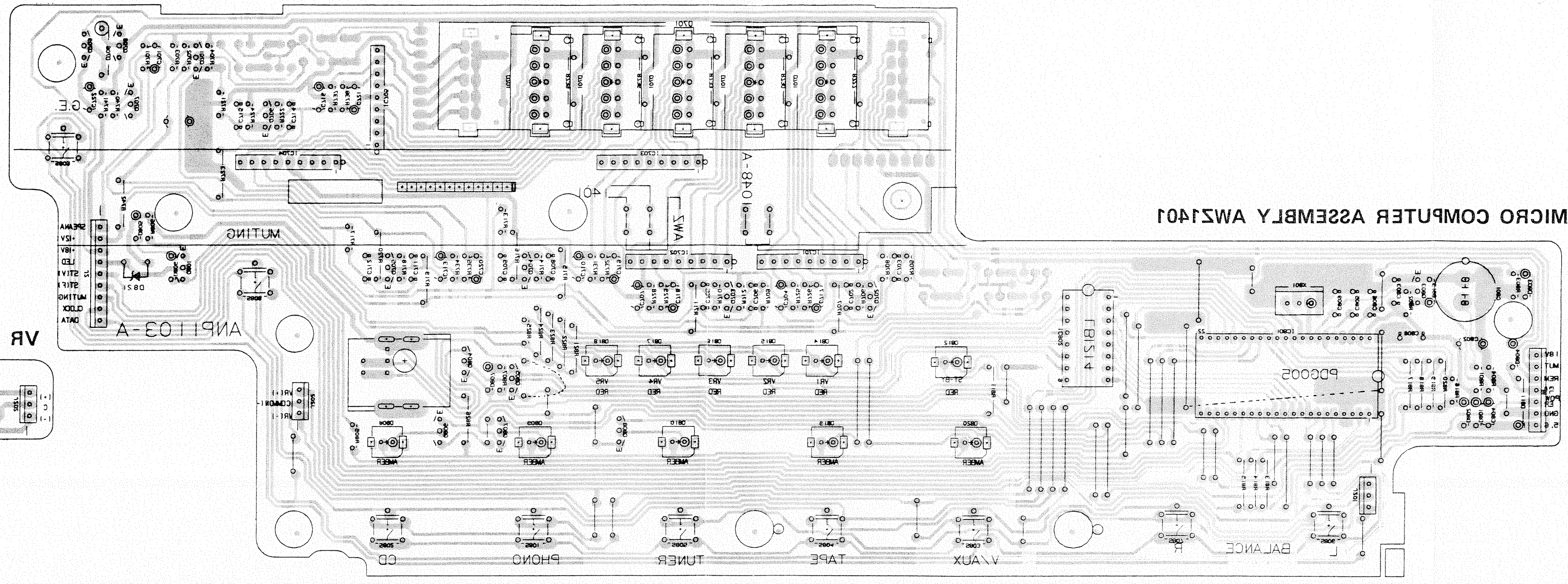
D


Q312
Q401-Q406
Q310
Q314
Q313
Q309 Q311
Q307 Q305 Q303 Q301
Q308 Q306 Q304 Q302
IC503 Q502
IC501
Q501
AWZ1390
SP SW ASSEMBLY
IC ASSEMBLY
AWZ1391
CONNECTOR ASSEMBLY
AWZ1302
OUTPUT ASSEMBLY
AWZ1389
CAUTION
ATTENTION
FU4 2A-125V
FU3 2A-125V
FU1 6.3A-125V
T501
RY401
RY501
ANP1102-B

AF ASSEMBLY
AWZ1392

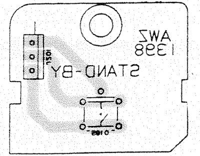
8.3 P.C. BOARDS DIAGRAM

MICRO COMPUTER ASSEMBLY AWZ1401



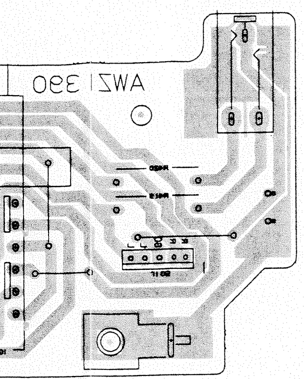
ANP1103-A
A-8040
PD6005
MUTING
CD
PHONO
TUNER
TAPE
V/AUX
BALANCE

TACT SW ASSEMBLY

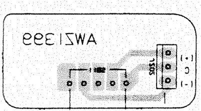


AWZ1398
STAND-BY

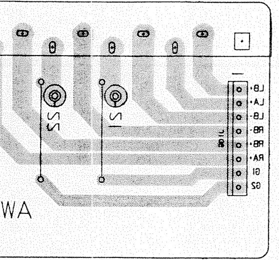
SP SW ASSEMBLY



VR SW ASSEMBLY



OUTPUT ASSEMBLY



Q701 Q707–Q709

IC705 IC704 Q706

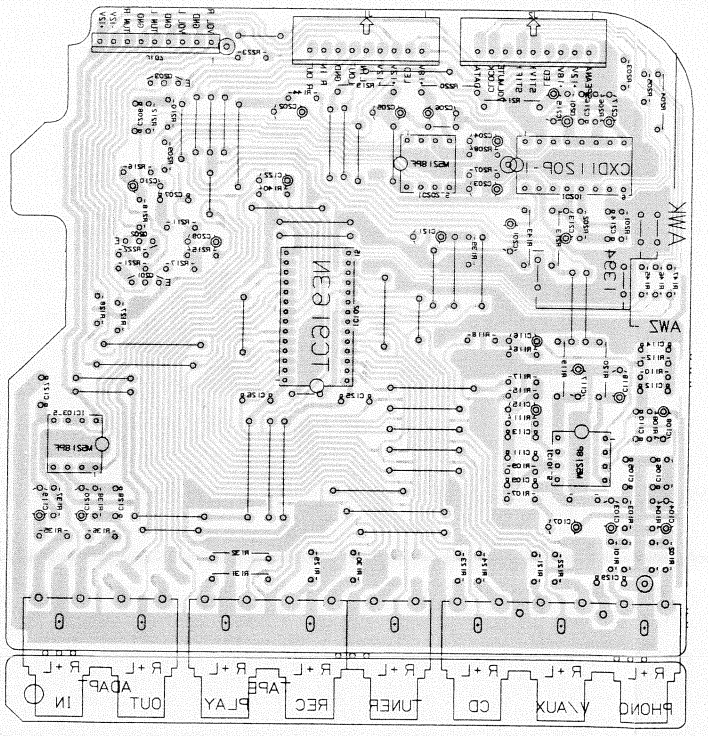
IC703

Q803 IC701 Q703 IC702 Q704 Q705 Q801

IC801 IC802 Q805 Q804

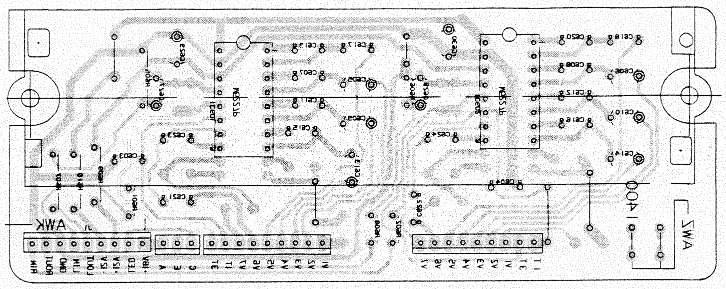
Q808 Q807 Q806

INPUT ASSEMBLY AWZ1394



CXD1120P-1
TC9163N
PHONO
V/AUX
CD
TUNER
REC
TAPE
PLAY
OUT
ADAP
IN

GE ASSEMBLY



8.4 ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).
  560Ω 56×10^1 561........................RD1/4PS [5] [6] [1] J
  47kΩ 47×10^3 473........................RD1/4PS [4] [7] [3] J
  0.5Ω 0R5..RN2H [0] [R] [5] K
  1Ω 010..RS1P [0] [1] [0] K
  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62kΩ 562×10^1 5621........................RN1/4SR [5] [6] [2] [1] F

Miscellaneous Parts

P.C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	AF assembly	AWZ1392
	Input assembly	AWZ1394
	Microcomputer assembly	AWZ1401
	Output assembly	
	SP switch assembly	
	IC assembly	
	Tact switch assembly	
	VR switch assembly	
	G.E. assembly	
	Connector assembly	

OTHERS

Mark	Symbol & Description	Part No.
★★	Q3, Q4	2SA1302
★★	Q1, Q2	2SC3281
⚠ ★	T1 Power transformer	ATS1075
⚠	AC socket (OUTLETS, 3P)	AKP-515
⚠ ★★	FU3, FU4 Fuse (2A/125V)	AEK-122
⚠ ★★	FU1 Fuse (6.3A/125V)	AEK-309
⚠	AC power cord	ADG-089

AF Assembly (AWZ1392)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC501	M5278L56
★★	IC503	μPC78M12H
★★	Q405	2SA1115
★★	Q313, Q314	2SA968
★★	Q301–Q304	2SA970
★★	Q502	2SB560
★★	Q406	2SC1845
★★	Q311, Q312	2SC2238
★★	Q305, Q306, Q401, Q402	2SC2240
★★	Q403, Q404, Q501	2SC2458 (2SC2603)
★★	Q309, Q310	2SC2603
★★	Q307, Q308	2SC2705
★	D507	D5SB20F
★	D305, D306, D309, C310	HZS4BLL
★	D405	HZS6B1L
★	D512	RD13ESB1
★	D407, D408	RD2.7ESB1
★	D501–D504, D508–D511	S5566 11E2)
★	D303, D304, D307, D308, D401–D404, D505	1SS131

RELAYS

Mark	Symbol & Description	Part No.
★★	RY401 Relay (PROTECTION)	ASR-112
⚠ ★★	RY501 Relay (POWER)	ASR1012 (ASR1013)

COILS AND TRANSFORMER

Mark	Symbol & Description	Part No.
	L401, L402 AF choke coil (0.7μH)	ATH1004
⚠ ★	T501 Power transformer (DC14V)	ATT1011

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C503, C505 (0.01μF/AC125V)	ACG1002
	C506 (0.01μF/150V)	ACG1005
	C507, C508 (6800μF/71V)	ACH1040
	C311, C312	CCCSL020C500 (CCDSL020C500)
	C315, C316	CCCSL060D500 (CCDSL060D500)
	C303, C304	CCCSL101J50 (CCDSL101J50)
	C319–C322	CCCSL101K500 (CCDSL101K500)
	C305, C306	CCCSL470J50 (CCDSL470J50)
	C401, C402	CEANP010M50
	C409	CEAS010M100
	C323	CEAS100M100
	C301, C302	CEAS100M25
	C504	CEAS101M10
	C502	CEAS102M25
	C511	CEAS222M25
	C313, C314, C514, C515, C517	CEAS470M16
	C317, C318	CEAS470M50
	C510	CEAS471M25
	C407	CEAS471M6
	C408	CEAS6R8M50
	C403–C406	CFTXA823J50
	C307, C308	CKCYB102K50 (CKDYB102K50)
	C501, C509	CKCYF103Z50 (CKDYF103Z50)
	C309, C310	CKCYB152K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R501 (2.2M, 1/2W)	ACN-208
⚠	R339, R340 (0.33x2, 5W)	ACN-139
⚠	R405, R406	RS1PMF100J
⚠	R417, R418	RS1PMF102
⚠	R508	RS1PMF2R2J
⚠	R502	RD1/2PMFL820J
⚠	R409, R410, R507	RD1/2PMF100J
⚠	R313, R314, R327–R330, R345, R401, R402, R511	RD1/4PMF □□□J
	R301–R312, R315–R320, R331, R332, R341–R344, R510, R503, R509	RD1/4PM □□□J
	R333–R338, R411, R506	RFA1/4PS □□□J
	Other resistors	RD1/8PM □□□J

Input Assembly (AWZ1394)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC201	CXD1120P
★★	IC101	M5218P
★★	IC103, IC202	M5218PF
★★	IC102	TC9163N
★★	Q203	2SA1048 (2SA1115)
★★	Q201, Q202	2SC2878
★	D201	RD5.1ESB1

CAPACITORS

Mark	Symbol & Description	Part No.
	C109, C110, C207, C208	CCCSL101J50 (CCDSL101J50)
	C127, C128	CCCSL221J50 (CCDSL221J50)
	C103, C104, C119–C122, C201, C202	CEAS100M25
	C213	CEAS101M16
	C115, C116, C203, C204, C209, C210	CEAS2R2M50
	C215	CEAS220M16
	C107, C108, C117, C118, C205, C206, C217	CEAS470M16
	C111, C112	CKCYB222K50 (CKDYB222K50)
	C105, C106	CKCYB391K50 (CKDYB391K50)
	C113, C114	CKCYB822K50 (CKDYB822K50)
	C125, C126, C129, C214, C216	CKCYX104M25 (CKDYX104M25)

RESISTORS

Mark	Symbol & Description	Part No.
	R119, R120, R213, R214, R219, R220	RD1/4PM □□□J
	Other resistors	RD1/8PM □□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P	AKB1007
	Terminal 6P	AKB1024

Microcompu

SEMICONDUC

Mark	Symbo
★★	IC701-
★★	IC802
★★	IC801
★★	Q806–
★★	Q707,
★★	Q804
★★	Q708
★★	Q709
★★	Q801
★★	Q701–
★	D808–
★	D812,
★	D701
★	D803
★	D706
★	D801, D813
★	D821

SWITCHES

Mark	Symb
★★	S80
	PHO
	TAPE
	BAL

CAPACITOR

Mark	Sym
	C80
	C70
	C701
	C717–
	C802
	C722
	C804
	C805
	C714,
	C711,
	C708,
	C806
	C809,
	C705,
	C702,

Part No.
CXD1120P
M5218P
M5218PF
TC9163N
2SA1048 (2SA1115)
2SC2878
RD5.1ESB1

Part No.
CCCSL101J50 (CCDSL101J50)
CCCSL221J50 (CCDSL221J50)
CEAS100M25
CEAS101M16
CEAS2R2M50
CEAS220M16
CEAS470M16
CKCYB222K50 (CKDYB222K50)
CKCYB391K50 (CKDYB391K50)
CKCYB822K50 (CKDYB822K50)
CKCYX104M25 (CKDYX104M25)

Part No.
RD1/4PM□□□J
RD1/8PM□□□J

Part No.
AKB1007
AKB1024

Microcomputer Assembly (AWZ1401)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC701–IC705	BA6144
★★	IC802	LB1214
★★	IC801	PDG005-C
★★	Q806–Q808	RN1201
★★	Q707, Q805	RN1203
★★	Q804	RN2201
★★	Q708	2SA1048 (2SA1115)
★★	Q709	2SA1515
★★	Q801	2SC1740S
★★	Q701–Q706, Q803	2SC2458 (2SC2603)
★	D808–D810, D819, D820	AEL1015
★	D812, D814–D818	AEL1017
★	D701	AEL1044
★	D803	RD4.7ESB2
★	D706	S5566 (11E2)
★	D801, D802, D804–D807, D811, D813	1SS131
★	D821	RD33EB

SWITCHES

Mark	Symbol & Description	Part No.
★★	S801–S809 Tact switch (PHONO, CD, VIDEO/AUX, TAPE, TUNER, BALANCE-L, BALANCE-R, MUTING, EQUALIZER)	ASG-711

CAPACITORS

Mark	Symbol & Description	Part No.
	C801 (47000μF/5.5V)	ACH1037
	C704, C707, C710, C713, C716,	CEASR33M50
	C701	CEAS010M50
	C717–C721	CEAS100M25
	C802	CEAS101M10
	C722	CEAS101M16
	C804	CEAS4R7M50
	C805	CKDYB102K50
	C714, C715	CKCYB821K50 (CKDYB821K50)
	C711, C712	CKCYB222K50 (CKDYB222K50)
	C708, C709	CKCYB682K50 (CKDYB682K50)
	C806	CKCYF473Z50 (CKDYF473Z50)
	C809, C803, C808	CKCYX104M25 (CKDYX104M25)
	C705, C706	CKCYX153M25 (CKDYX153M25)
	C702, C703	CKCYX473M25 (CKDYX473M25)

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R727, R730, R733, R736, R739,	RD1/2PMF680J
	R742	RD1/4PM470J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X801 Ceramic oscillator (4.00MHz)	ASS1010
	Remote control sensor unit	AXX1005

Output Assembly (AWZ1389)

OTHERS

Mark	Symbol & Description	Part No.
	Speaker terminal (8P)	AKE-111
	Mini jack	AKN-207

SP SW Assembly

SWITCHES

Mark	Symbol & Description	Part No.
★★	S401 Push switch (SPEAKER)	SUL8LXYS

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R419, R420	RS2LMF331J

OTHERS

Mark	Symbol & Description	Part No.
	Headphone jack	AKN1002

IC Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC502	M5F7812L

CAPACITORS

Mark	Symbol & Description	Part No.
	C513	CEHAQ010M50
	C512	CEHAQ100M25

Tact Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S810 Tact switch (STAND-BY)	ASG-711

VR Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S811 Momentary switch (VOLUME CONTROL)	ASD1001

G.E. Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601, IC602	M5227P

CAPACITORS

Mark	Symbol & Description	Part No.
	C613, C614	CEASR15M50
	C609, C610	CEASR47M50
	C605, C606	CEAS1R5M50
	C627, C628	CEAS100M25
	C629, C630	CEAS470M16
	C619, C620	CKCYB182K50 (CKDYB182K50)
	C603, C604	CKCYB331K50 (CKDYB331K50)
	C625, C626	CKCYB471K50 (CKDYB471K50)
	C623, C624	CKCYB561K50 (CKDYB561K50)
	C615, C616	CKCYB562K50 (CKDYB562K50)
	C621, C622	CKCYX153M25 (CKDYX153M25)
	C611, C612	CKCYX183M25 (CKDYX183M25)
	C617, C618	CKYYX473M25 (CKDYX473M25)
	C607, C608	CKCYX563M25 (CKDYX563M25)

RESISTORS

Mark	Symbol & Description	Part No.
★	VR601 Variable resistor (GRAPHIC EQUALIZER 30k)	ACU1015
⚠	R609, R610	RF1/4PS470J
	Other resistors	RD1/8PM□□□J

Connector assembly

There is no parts supply for the connector assembly.

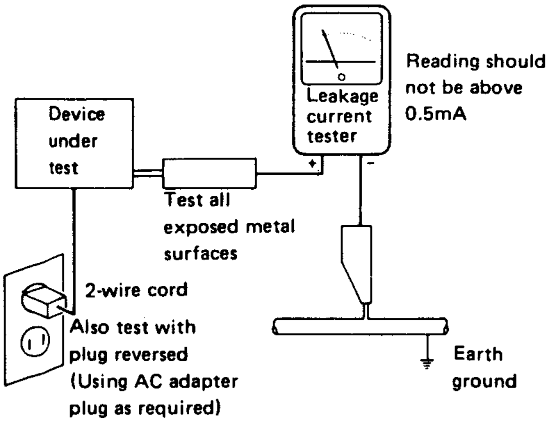
9. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
+
-
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.